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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

EASING THE ARCTIC TENSION: AN ECONOMIC SOLUTION

by

Chad P. Pate

December 2010

Thesis Advisor:
Second Reader:

Anne L. Clunan
Erik Dahl

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EASING THE ARCTIC TENSION: AN ECONOMIC SOLUTION

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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

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ABSTRACT

Climate change in the Arctic is affecting the ice melt more rapidly than previously anticipated and the Arctic is now forecast to be ice-free by 2013. International borders, fossil fuel reservoirs and new sea routes for navigation are just a few of the issues at stake due to the receding ice cover. Contrary to those who perceive U.S.-Russian conflict arising out of the region and advocate a military response, this thesis argues that the Arctic, precisely because of its rich hydrocarbon resources, may prove to be amenable to a capitalist peace. Research suggests that nations linked by economic interdependence are less apt to engage in conflict with each other. Nations seeking foreign direct investment will be less likely to initiate conflict, as this would diminish the potential for attracting foreign capital. Russia's economy is dependent on oil and natural gas exports and these industries have created enormous wealth for the nation. Yet Russia's existing fossil fuel reservoirs are nearing exhaustion. Tapping into Arctic reserves is a strategic imperative for Russia; however, it lacks the technological capacity to do so. The energy industry in the West is farther along in developing such extractive technology. This thesis argues that Russia's need of foreign assistance in its hydrocarbon sector will make Russia more pacific, thereby offsetting realist fears of a military conflict in the Arctic.

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LIST OF ACRONYMS AND ABBREVIATIONS

ADIZ	Air Defense Identification Zone
AFB	Air Force Base
Bcm	Billion Cubic Meters
BP	British Petroleum
Bpd	Barrels per Day
EIA	Energy Information Administration
FDI	Foreign Direct Investment
ISA	International Studies Association
NORAD	North American Aerospace Defense Command
NSPD-66	National Security Presidential Directive-66
PDD-26	Presidential Decision Directive-26
Tcm	Thousand Cubic Meter
UNCLOS	United Nations Convention on the Law of the Sea

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I. INTRODUCTION

A. RESEARCH QUESTION

Climate change in the Arctic is affecting the ice melt more rapidly than previously anticipated. Where earlier models predicted an ice-free Arctic in 2150, new models forecast the Arctic to be ice-free by 2013.¹ As Figure 1 demonstrates, international borders, fossil fuel reservoirs and new sea routes for navigation are just a few of the issues being debated as a result of the receding ice cover.

Numerous sources refer to heightened tensions between Russia and the other Arctic states, resulting from competition over newly uncovered resources and waterways.² The situation in the Arctic has evolved to one reminiscent of the Cold War where Russian “long-range bombers, supported by tankers, escort fighters and reconnaissance aircraft” patrol the airspace for the first time since the Cold War ended.³ Additionally, the Russian Navy has resumed patrols in the Arctic waters for the first time since the fall of the Soviet Union.

¹ United States House of Representatives Committee on Foreign Affairs, “Climate Change and the Arctic: New Frontiers of National Security,” at: <http://foreignaffairs.house.gov/111/48332.pdf> (accessed April 15, 2010), 10; Ronald O'Rourke, “Changes in the Arctic: Background and Issues for Congress,” *CRS Report for Congress*, March 2010, 7.

² For example, see Margaret Blunden, “The New Problem of Arctic Stability,” *Survival* 51, no. 5 (October 2009), 121–142; Heather Conley and Jamie Kraut. “U.S. Strategic Interests in the Arctic,” at: http://csis.org/files/publication/100426_Conley_USStrategicInterests_Web.pdf (accessed May 1, 2010); O'Rourke, “Changes in the Arctic: Background and Issues for Congress.”

³ Blunden, “The New Problem of Arctic Stability,” 126.

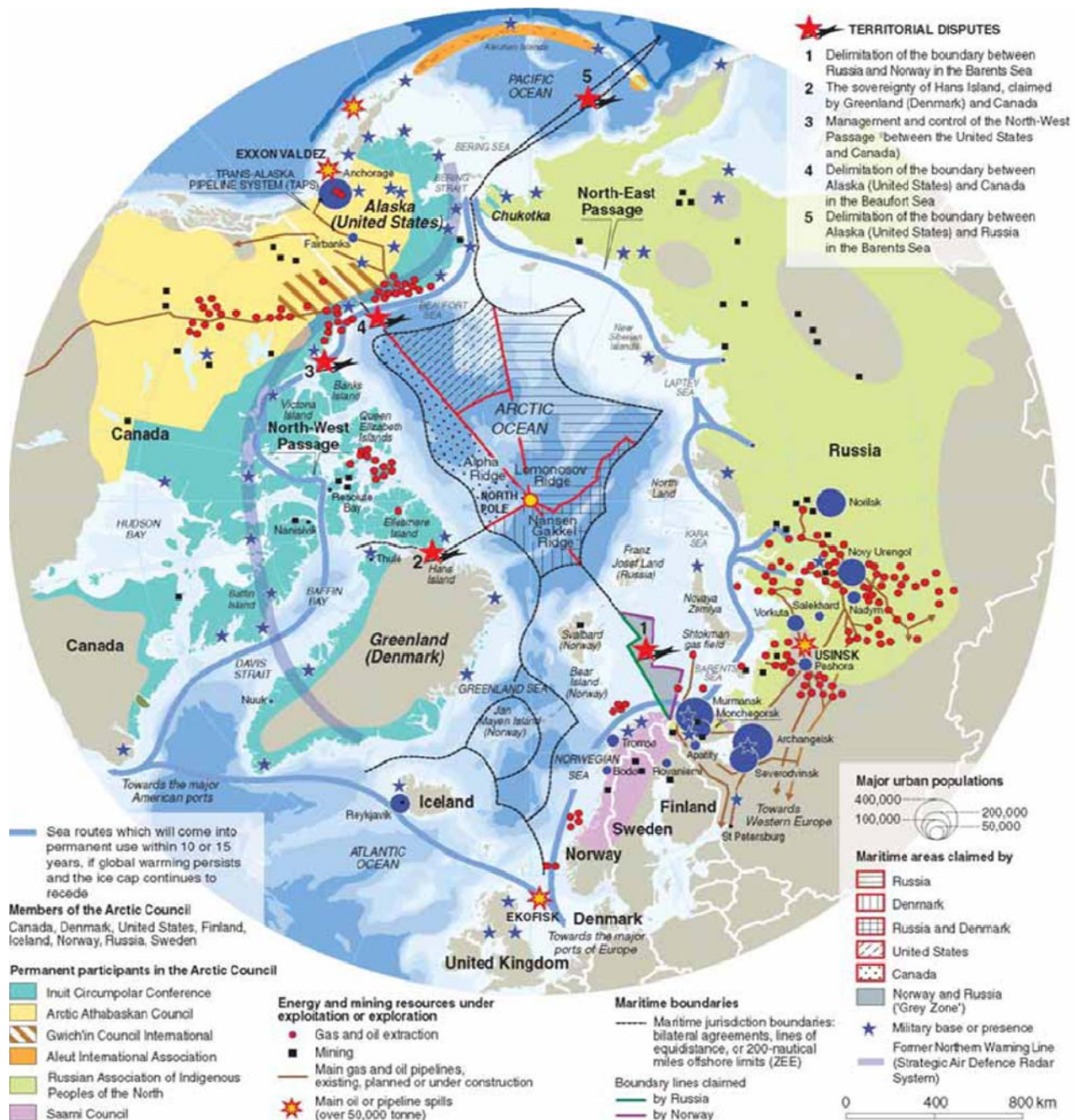


Figure 1. Ongoing disputes in the Arctic⁴

⁴ Roderick Kefferputz, "On Thin Ice? (Mis)interpreting Russian Policy in the High North," *CEPS Policy Brief*, no. 205 (2010).

If tensions were to escalate, the U.S. Navy is unprepared to exhibit a show of force, as it is unable to safely operate on the surface in the region. Construction of a naval Arctic arm will be costly, time consuming, and, considering the Defense Department's 2010 directive aimed at reducing spending, unlikely.⁵ Yet as Russia's military presence in the region continues to grow and if the nation succeeds in gaining the territory it claims it rightfully owns, Russian forces will encroach on historically isolated U.S. interests in the area.⁶

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⁵ CNN Wire Staff, "Gates: Pentagon Must Cut Overhead, Restrain Spending," at: <http://www.cnn.com/2010/POLITICS/05/09/gates.defense/index.html?hpt=T2> (accessed May 9, 2010). In May 2010, Defense Secretary Robert Gates ordered the Defense Department's leadership to reduce spending by 2 to 3 percent, an amount equal to more than \$10 billion.

⁶ Roger Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources* (New York: Continuum, 2009), 176. These interests include a portion of the U.S. energy infrastructure as well as vital radar and communications links used by the U.S. military.

⁷ For example, see Margaret Blunden, "The New Problem of Arctic Stability," *Survival* 51, no. 5 (October 2009), 121–142; Heather Conley and Jamie Kraut, "U.S. Strategic Interests in the Arctic," at: http://csis.org/files/publication/100426_Conley_USStrategicInterests_Web.pdf (accessed May 1, 2010); O'Rourke, "Changes in the Arctic: Background and Issues for Congress."

⁸ Blunden, "The New Problem of Arctic Stability," 126.

⁹ CNN Wire Staff, "Gates: Pentagon Must Cut Overhead, Restrain Spending," at: <http://www.cnn.com/2010/POLITICS/05/09/gates.defense/index.html?hpt=T2> (accessed May 9, 2010). In May 2010, Defense Secretary Robert Gates ordered the Defense Department's leadership to reduce spending by 2 to 3 percent, an amount equal to more than \$10 billion.

grow and if the nation succeeds in gaining the territory it claims it rightfully owns, Russian forces will encroach on historically isolated U.S. interests in the area.¹⁰

With the Alaskan coastline only 57 miles across the Bering Strait from Russian territory, adherents to the realist theory of international relations may interpret the presence of a newly robust Russian navy and an increasingly active air force as upsetting the balance of power in the region. Considering the importance both nations have placed on their Arctic interests, realists might further expect conflict to arise out of the situation and would seek to bolster the nation's military power to counter anticipated foreign aggression. However, another possibility exists for how U.S.-Russian relations can evolve, a possibility based on the promise of a capitalist peace.¹¹ The purpose of this work is to examine the potential for establishing a capitalist peace as a means of easing tensions among the United States, its allies, and Russia in an effort to encourage peaceful conflict resolution and prevent a dramatic increase in Arctic hostilities.

B. IMPORTANCE

Currently, the United States does not possess any ice-hardened warships and its only three icebreakers are approaching the end of their 30-year service lives.¹² Additionally, the icebreaker mission was transferred to the Coast Guard in 1966 and is split between Coast Guard operations, scientific and logistics-

¹⁰ Roger Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources* (New York: Continuum, 2009), 176. These interests include a portion of the U.S. energy infrastructure as well as vital radar and communications links used by the U.S. military.

¹¹ Erik Gartzke, "The Capitalist Peace," *American Journal of Political Science* 51, no. 1 (January 2007), 166. According to Gartzke, "Economic development, free markets, and similar interstate interests all anticipate a lessening of militarized disputes or wars. This 'capitalist peace' also accounts for the effect commonly attributed to regime type [i.e. democratic peace theory] in standard statistical tests of the democratic peace." The capitalist peace will be explained in much greater detail later in Chapter I.

¹² Ronald O'Rourke, "Changes in the Arctic: Background and Issues for Congress," 7. Ice-free does not necessarily mean "no ice." The definition of "ice-free" or sea ice "extent" or "area" varies across studies. Sea ice "extent" is one common measure of the amount of ice and is equal to the sum of the area of grid cells that have less than a set percentage—frequently 15%—ice concentration. For this reason, ice-strengthened ships or icebreaker-escorted convoys are necessary.

oriented tasks. These three Coast Guard vessels, coupled with the icebreaker *Nathaniel B. Palmer* (owned by the National Science Foundation and used solely for scientific missions), “constitute the entire fleet of U.S. ships equipped for polar operations.”¹³ Contrast this situation with that of Russia, which possesses 18 icebreakers, 10 of which are nuclear powered.¹⁴ Allocating funds to reinforce current naval vessels for Arctic missions or constructing new icebreakers during an economic downturn could be problematic. Nonetheless, National Security Presidential Directive-66 (NSPD-66), released in January 2009, calls for the development of “greater capabilities and capacity, as necessary, to protect United States air, land, and sea borders in the Arctic region” as well as projecting “a sovereign United States maritime presence in the Arctic in support of essential United States interests.”¹⁵ These interests, the directive further notes, are “missile defense and early warning; deployment of sea and air systems for strategic sealift, strategic deterrence, maritime presence, and maritime security operation; and ensuring freedom of navigation and over flight.”¹⁶ Fulfilling the president’s goal via military expansion will be costly and time-consuming.¹⁷

Although the need for increased law enforcement and search-and-rescue capabilities are not in dispute for a region soon to experience increased human traffic, it is necessary to scrutinize the need to maintain a robust military presence. The time requirement for polar-capable ship construction is 10 years

¹³ David Gove, “Arctic Melt: Reopening a Naval Frontier,” *Proceedings* 135, no. 2 (February 2009).

¹⁴ National Research Council of the National Academies, *Polar Icebreakers in a Changing World* (Washington DC: The National Academies Press, 2007), 59.

¹⁵ George W. Bush, “NSPD-66/HSPD-25,” at: <http://www.fas.org/irp/offdocs/nspd/nspd-66.htm> (accessed April 18, 2010).

¹⁶ *Ibid.*

¹⁷ Ronald O'Rourke, “Changes in the Arctic: Background and Issues for Congress,” *CRS Report for Congress*, October 2010, 5. According to Congressional Research Service communication with a State Department Official on October 8, 2010, the Obama Administration has not issued a new directive that would supersede NSPD-66 and is currently operating under the Bush Administration’s directive.

and each ship may cost as much as \$1 billion.¹⁸ It is important that U.S. policymakers understand the validity of the threats posed to U.S. interests and what means are available, other than a military show of force, to effectively neutralize these threats.

C. ANALYSIS OF COMPETING THEORIES AND HYPOTHESIS

This thesis will compare two theories that may influence the future of international politics in the Arctic. This section begins with an analysis of realism, whose adherents likely envision a future characterized by conflict in the Arctic. A discussion focusing on the capitalist peace follows realism. The work's hypothesis ends this section.

1. Realism

The field of international relations is composed of contending theories, or theoretical perspectives, that seek to explain relationships among countries, governments, people and organizations. Political realism, more commonly referred to as realism, is one particular family of international relations theories that emphasizes the more "competitive and conflictual" aspect of world politics.¹⁹ Realists consider the main actors in international politics to be the states, which are primarily concerned with their own security. As such, states act in pursuit of their own self-interests and work to amass power to ensure their security is not threatened. Whereas national politics adheres to the concept of authority and law, realists perceive international politics as a "sphere without justice, characterized by active or potential conflict among states."²⁰

¹⁸ Amy McCullough, "Stronger Hulls Could Help Fill Icebreaker Gap," *Navy Times*, February 22, 2009, at: http://www.navytimes.com/news/2009/02/coastguard_arctic_022209/ (accessed April 19, 2010).

¹⁹ W. Julian Korab-Karpowicz, "Political Realism in International Relations," at: <http://plato.stanford.edu/entries/realism-intl-relations/> (accessed November 1, 2010).

²⁰ Ibid.

The differing aspect of each of the theories classified under realism is their underlying justification for the quest for power or security.²¹ Hans Morgenthau's classical realism attributes the desire for power to human nature. According to Morgenthau, every human being is born with the need to possess power relative to his or her peers. Since human beings lead nations, this desire for power is transferred to international politics.²² In structural realism (also known as neorealism), the principal actors are the states and not the individuals leading them. Thus, for structural realists, regime type and cultural differences are irrelevant. Structural realists attribute the anarchic structure of the international system to states' pursuit of power and security. With no higher authority overseeing state interaction, states must accumulate as much power as possible to both serve as a deterrent from potential attack as well as to protect themselves if attacked.²³

Realists such as John J. Mearsheimer argue that "factors of military power have been most important in shaping past events, and will remain central in the future."²⁴ Mearsheimer further contends that realists view the international system as a "brutal arena where states look for opportunities to take advantage of each other...International relations is not a constant state of war, but a state of relentless security competition."²⁵ With Russia's proposed increase in capabilities as well as its recent military maneuvers in the North (both of which will be examined in Chapter II), realists would likely conclude that Russia is positioning itself to tip the regional balance of power in its favor.

²¹ Michael Barnett and Raymond Duvall, "Power in International Politics." *International Organization*, 59, no. 1 (Winter 2005), 39-75. Power, when used in conjunction with international relations, is defined as "the production, in and through social relations, of effects that shape the capacities of actors to determine their circumstances and fate."

²² Hans J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace* (New York: Alfred A. Knopf, 1978), 4-15.

²³ Tim Dunne, Milja Kurki, and Steve Smith, *International Relations Theories, Discipline and Diversity* (Oxford: Oxford University Press, 2007), 72.

²⁴ John J. Mearsheimer, "Back to the Future: Instability in Europe after the Cold War," *International Security* 15, no. 1 (Summer 1990), 7.

²⁵ John J. Mearsheimer, "The False Promise of International Institutions," *International Security* 19, no. 3 (Winter 1994/1995), 10.

Perceiving Russia's efforts as a power grab, a likely realist response from the other Arctic states would be to increase their own Arctic military capabilities. The proposals outlined above in NSPD-66 as well as its follow-on publication, the U.S. Navy Arctic Roadmap, appear to mirror realist thinking as both propose augmenting the current force with more Arctic-capable vessels. The same is true for Canada and Norway where officials have adopted similar policies.²⁶ However, military augmentation may not be necessary if a capitalist peace is established in the contentious Arctic region.

2. The Capitalist Peace

"The Capitalist Peace," published by Erik Gartzke in 2007, did not introduce a new concept. Gartzke merely refined the theory and sought to prove it true through statistical analysis. The idea that capitalism binds potential rivals and wards off subsequent conflict is an ancient one with some references dating back almost two millennia.

In 100 AD, for example, the Roman philosopher Plutarch, in speaking of the trade made possible by traversing the sea, declared, "This element [the sea], therefore, when our life was savage and unsociable linked it together and made it

²⁶ One week after Russia planted a titanium national flag on the Arctic seabed, Canadian Prime Minister Stephen Harper announced an increase the Canadian Forces' military capabilities. His proposal included the opening of a new army training center for cold-weather fighting at Resolute Bay, a deep-water port at Nanisivik, on the northern tip of Baffin Island, an increase its military presence in the far north with 900 additional Canadian Rangers and the construction of six to eight new navy patrol ships. See Associated Press, "Canada-Russia Arctic Tensions Rise," at: <http://www.cbc.ca/world/story/2010/03/17/arctic-russia017.html> (accessed April 20, 2010). In August 2009, Norway relocated its military command base from Stavanger to Bodø, a base previously occupied for Cold War operations located inside the Arctic Circle. See BBC News, "Inside Norway's underground military HQ," at: <http://www.bbc.co.uk/news/world-europe-11386699> (accessed October 2, 2010). Additionally, Norway has ordered a new intelligence vessel destined for Arctic operations whose "main task is to keep track of the Russian armed forces' activities." See Barents Observer, "Norway Orders New Spy Ship for the High North," at: <http://www.barentsobserver.com/norway-orders-new-spy-ship-for-the-high-north.4835659-116320.html> (accessed November 1, 2010).

complete, redressing defects by mutual assistance and exchange and so bringing about cooperation and friendship.”²⁷ Montesquieu, in 1748, went on to say:

Peace is the natural effect of trade. Two nations who traffic with each other become reciprocally dependent; for if one has an interest in buying, the other has an interest in selling; and thus their union is founded on their mutual necessities.²⁸

A final example is given by Norman Angell, the 1933 winner of the Nobel Peace Prize, who asserted that economic connections made it “impossible for one nation to seize by force the wealth or trade of another...war, even when victorious, can no longer achieve those aims for which peoples strive.”²⁹

It was not until Gartzke began investigating capitalism’s effect on conflict avoidance and comparing the findings with other theories (such as the democratic peace theory) that the stability offered by economic ties became more noticeable. Whereas the aforementioned theorists focused more on the unprofitable nature of military conquest and the futility of conducting such operations, Gartzke revealed how economic ties actually prevented conflict from escalating.

Gartzke observed how the peace-through-economics theories mentioned above as well as those of more contemporary political economists were met with resistance as, “two world wars and associated economic upheaval reversed the trend toward globalization and dissolved optimism about a capitalist peace.”³⁰ Following the Cold War, international relations scholars did migrate away from realist-centric thinking and began to consider the possibility of more liberal

²⁷ Douglas Irwin, *Against the Tide: An Intellectual History of Free Trade* (Princeton: Princeton University Press, 1996), 11.

²⁸ Philip Kurland and Ralph Lerner, *The Founder's Constitution* (Chicago: University of Chicago Press, 2000), 99.

²⁹ Norman Angell, *The Great Illusion* (New York: Putnam, 1933), 60.

³⁰ Gartzke, “The Capitalist Peace,” 170.

approaches to state relations. However, the liberal resurgence was more focused on democratic peace theory than on the effects of capitalism.³¹

According to Gartzke, the initial capitalist peace theorists adhered too closely to the idea that resource competition was the only catalyst for war. In effect, these scholars trusted that once states realized the unprofitable nature of wars of conquest they would abandon such notions and forge more diplomatic bonds. Gartzke's refinement of the capitalist peace theory included the acknowledgement that "if there are other reasons why nations fight [besides resource competition], then some wars will occur, despite the basic validity of capitalist peace arguments."³² Therefore, capitalism will not eliminate war altogether but may decrease the possibility that that such a war will occur. This is due to capitalism altering the way states calculate their interests with respect to cooperation and conflict with the former becoming more prominent when two countries are interdependent.

Based on his analysis:

Capitalism resolves insecurity by creating "powerful pacifists," countries possessing military strength ensuring that they are largely free from foreign influence or domination, but equally that they lack incentives to act aggressively abroad, at least under certain circumstances.³³

Gartzke goes on to say that, "states with similar interests, or integrated markets, or mutual development and an absence of policy differences are less likely to fight."³⁴ With this in mind, if economic interdependence can be established between Russia and its Arctic neighbors then the tension resulting

³¹ Fred Chernoff, "Conventionalism as an Adequate Basis for Policy-Relevant IR Theory," *European Journal of International Relations* 15, no. 1 (2009); Michael Mousseau and Shi Yuhang, "A Test for Reverse Causality in the Democratic Peace Relationship," *Journal of Peace Research* 36, no. 6 (1999); Zeev Maoz and Bruce Russett, "Normative and Structural Causes of Democratic Peace, 1946-1986," *American Political Science Review* 87, no. 3 (September 1993); Michael W. Doyle, "Kant, Liberal Legacies, and Foreign Affairs," *Philosophy and Public Affairs* 12, no. 3 (Summer 1983).

³² Gartzke, "The Capitalist Peace," 170.

³³ *Ibid.*, 171.

³⁴ *Ibid.*, 178.

from the realist-perceived power imbalance may be reduced. In doing so, the proposals calling for a dramatic increase in Arctic military capabilities may be reduced or rejected altogether.

Equally compelling is the evidence offered by author Stephen G. Brooks in his book, *Producing Security*. Brooks argues that the worldwide migration away from unilateral development and production practices has eased the tensions between historic adversaries. He notes how the “global production shift can, under certain conditions, enhance the prospects for peace by contributing to the consolidation of deep regional economic integration among long-standing security rivals.”³⁵ More important, as it relates to this thesis, is Brooks’ finding that aggressive policies run counter to economic stability because they diminish the potential for Foreign Direct Investment (FDI).³⁶ Were Russia to initiate a conflict it would likely harm any prospect the state may have for outside assistance in its need for hydrocarbon production.³⁷

Other scholars further substantiate Brooks’ conclusion regarding conflict negatively influencing the potential for FDI. These scholars also reinforce Gartzke’s conclusion that capitalism, in this case corporate leadership pursuing FDI, serves as an effective deterrent to military conflict. A paper presented by Margit Bussmann and Hans Wild at the 2010 International Studies Association (ISA) convention revealed how “foreign investment can restrain countries from getting involved in conflict.”³⁸ With this, if Western corporations were to heavily invest in Russian industry, Russia may be more reluctant to initiate a military dispute. Further, Bussmann and Wild examined whether the onset of a conflict

³⁵ Stephen G. Brooks, *Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict* (Princeton: Princeton University Press, 2007), 7.

³⁶ *Ibid.*, 10.

³⁷ Chapter III of this thesis discusses Russia’s need for assistance in its hydrocarbon industry.

³⁸ Margit Bussmann and Hans Wild, “Foreign Direct Investment and Militarized Conflict,” (paper presented at the annual meeting of the International Studies Association, Le Centre Sheraton Hotel, Montreal, Quebec, Canada, Mar 17, 2004), 1.

reduced the inflow FDI and concluded that FDI was in fact reduced between dyads with the onset of a fatal conflict.³⁹ This is significant to this thesis because if FDI could be established between the United States and Russia, Russia would be loathe to lose it. The desire to retain this investment may reduce the possibility of Russia of initiating a military conflict with the United States. Hoon Lee and Sara McLaughlin Mitchell's research, presented at a follow-on ISA convention, mirror Bussmann and Wild's findings. Their analysis revealed how:

Bilateral FDI inflows between two disputants significantly reduce the chances for escalation to high levels of violence over contested issues and improve the chances for peaceful conflict management...additional analysis also finds that strong support for the opportunity costs as a primary mechanism linking FDI and conflict management.⁴⁰

Lee's earlier research addressed levels of FDI and showed how "the more FDI host countries receive, the less likely they are to initiate militarized interstate conflicts."⁴¹ As will be explained below, Russia is in need of substantial FDI in its hydrocarbon sector. According to Lee's analysis, the increase in FDI may serve to make Russia more pacific and nullify the power disparity in the North that is of great concern to realists.

Bussmann, in an April 2010 article, also found "that inflows and stock of foreign investment reduce the risk of an outbreak of a fatal dispute."⁴² More specifically, Bussmann found that "militarized conflicts inhibit foreign investment" not only within the warring parties but also from states external to the conflict

³⁹ Ibid., 2 and 13. A fatal conflict is defined as a militarized interstate dispute with at least one battlefield death.

⁴⁰ Hoon Lee and Sara McLaughlin Mitchell, "Foreign Direct Investment and Territorial Disputes," (paper presented at the annual meeting of the International Studies Association, New Orleans Hilton Riverside Hotel, The Loews New Orleans Hotel, New Orleans, LA, Feb 17, 2010), 1.

⁴¹ Hoon Lee, "Foreign Direct Investment and Militarized Interstate Conflict," at: <http://isa-m.missouri.edu/Awards/Lee.pdf> (accessed September 12, 2010), 1.

⁴² Margit Bussmann, "Foreign Direct Investment and Militarized International Conflict," *Journal of Peace Research*, 47, no. 2 (April 2010), 143.

whose industry executives are wary of the instability that accompanies war.⁴³ Thus, Bussmann's research further endorses the potential for FDI to limit the prospect of conflict in the Arctic.

Polachek, Seigle and Xiang's research expands the notion that FDI can have a pacifying effect. The authors note how direct investment has characteristics that trade lacks, most notably in the long term. With trade, one state can substitute partners more frequently when conflict arises and all parties can work to minimize loss resulting from the termination of trade. However, with FDI, investments cannot be withdrawn so easily and if they are withdrawn, the cost may never be recovered. Polachek et al. explored the possibility that the investment parties may use their influence to push their respective governments to adopt policies that are more conciliatory if tension arises. Additionally, the host government "may be induced to adopt cooperative policies in order to demonstrate a friendly image towards FDI in order to attract further investments from other countries."⁴⁴

To test their theory, Polachek et al. utilized FDI data merged with data contained in Virtual Research Associates and Correlates of War 2. Their intent was to statistically test if FDI flows impact the prospect of conflict and cooperation between nations. Their statistical analysis found that as the amount of FDI increases, the potential for conflict decreases.⁴⁵

A final example of FDI limiting conflict escalation is illustrated in Ceren Altincekic's October 2009 working paper. Altincekic sought to clarify what aspect of Gartzke's capitalist peace is most effective in nurturing peace. "By controlling

⁴³ Bussmann, "Foreign Direct Investment and Militarized International Conflict," 143, 145.

⁴⁴ Solomon Polachek, Carlos Seigle, and Jun Xiang, "Globalization and International Conflict: Can FDI Increase Peace?" in *Proceedings of the 10th Annual International Conference on Economics and Security*, ed. Eftychia Nikolaidou (Thessaloniki: South East European Research Centre, 2006), 282.

⁴⁵ Polachek, Seigle and Xiang, "Globalization and International Conflict: Can FDI Increase Peace?" 280.

for FDI, capital openness, trade, portfolio investment and equity investments simultaneously,” the report found that “capital openness and FDI, not trade or portfolio investment, [made] dyads significantly more peaceful.”⁴⁶

In sum, interstate relationships based on economic bonds have proven to be effective deterrents to fatal conflict initiation. The strongest deterrent force occurs between dyads that experience high levels of FDI with one another. Still significant, however, is how the desire to attract FDI prevents potentially aggressive states from initiating conflict even outside of the FDI-sending and receiving relationship. The destabilizing effect of war makes investment risky, thereby causing states not directly involved in the conflict to be reluctant to invest in such an environment. Russia’s stock market, for example, dropped to its lowest level in two years as a result of Russia’s 2008 conflict with Georgia.⁴⁷ If significant FDI is established between Russia and the United States, the potential for the nations to engage in a military dispute may be reduced. If such investment cannot be established, Russia may still be reluctant to initiate conflict with the United States because doing so might deter other states from investing in Russia’s industry.

3. Hypothesis

Russia is in position to gain access to much-needed energy resources resulting from the ice melt but is unable to tap into them due to a lack of advanced technology, technology that Western corporations are farther along in developing. An avenue for mutual development may open with FDI and an increase in the number of multinational corporations. However, this development will only occur if Russian leadership relaxes robust national barriers to such investment. For example, an April 2008 Russian law considers hydrocarbons a

⁴⁶ Ceren Altincekic, “FDI Peace: Which “Capitalism” Leads to More Peace Among Dyads?” (Working paper, One Earth Future Foundation, 2009), 2.

⁴⁷ Andrew E. Kramer, “Georgian Conflict takes toll on Russian Stock Market,” *The New York Times*, August 27, 2008, at: http://www.nytimes.com/2008/08/27/business/worldbusiness/27iht-ruble.4.15690754.html?_r=1 (accessed December 10, 2010).

strategic asset. As a result, foreign investors must gain approval from the Russian government prior to acquiring more than a fifty percent stake in a strategic company. Additionally, investors wishing to acquire more than ten percent of a Russian company “engaged in using mineral resources of federal significance” must acquire advance approval from the authorities.⁴⁸ In reducing national controls, Russia would not only gain access to the energy it needs to remain economically viable, but international corporations would reap financial rewards as well. This symbiotic relationship may foster a more peaceful coexistence in the contentious Arctic region by stemming any potential for conflict escalation.

With the United States emerging from a recession, there is little chance that the military buildup outlined in NSPD-66 and the Navy Arctic Roadmap will come to fruition. Businesses in the United States stand to gain from investment overseas, yet Russia has traditionally made such investment difficult and unpredictable.⁴⁹ A key issue with Arctic oil and natural gas exploration is that Russian industry technology lags at least 10 years behind its Western counterparts.⁵⁰ Because of this lag, Russia has in the past allowed Western corporations to share in its energy resources in exchange for technological assistance only to mistreat the investors later on and force them out. As will be explained in Chapter III, Russia’s energy resources are dwindling so it is essential that the state bring new production locations on line as soon as possible. Because of this need, the Russian leadership may consider reducing the barriers to investment and accept that the nation will reap fewer rewards as Western corporations share their technology.

⁴⁸ Arild Moe and Elana Wilson Rowe, “Northern Offshore Oil and Gas Resources: Policy Challenges and Approaches,” in *Russia and the North*, ed. Elana Wilson Rowe (Ottawa: University of Ottawa Press, 2009), 109.

⁴⁹ Cindy Hurst, “Investment Risky in Russia as Politics Affects Profits,” *Oil and Gas Journal*, 105, no. 27 (July 2007): 18–23.

⁵⁰ Charles Emmerson, *The Future History of the Arctic* (New York: Public Affairs, 2010), 211.

The purpose of this thesis is to examine the potential for establishing a capitalist peace between Russia and its Arctic neighbors against the backdrop of Russia's declining hydrocarbon extraction capabilities. The work's hypothesis is that there is little potential for conflict in the Arctic due to Russia's inability to harvest the newly uncovered hydrocarbons on its own. With Western corporations possessing the necessary technology, Russian aggression in the North would likely block the inflow of FDI and harm the state's long-term economic viability. If economic interconnectedness is established, the resultant capitalist peace would likely ease tensions in the region and the United States may not be forced to increase significantly its military presence in the North, thereby allaying realist concerns regarding the imbalance of Arctic military power. Intentional or accidental encroachment by the enlarged Russian military into sensitive U.S. areas would be less likely to escalate beyond diplomatic exchanges with the nations linked by economic bonds. Without the ability to counter the Russian military directly should tensions escalate, relying on globalized production platforms—what Brooks argues is a “reserve stabilizer”—may offer an alternative means of maintaining the security of the United States' northernmost border.⁵¹

This thesis cannot prove whether this hypothesis is correct, as such proof relies on Russia's future behavior. It can explain, however, why the hypothesis is plausible, given its analysis of Russia's hydrocarbon and technological resources. Contrary to realist predictions, therefore, this thesis seeks to establish the feasibility of a capitalist peace in the Arctic.

⁵¹ Brooks, *Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict*, 216. Brooks argues that “even if a risk-acceptant or blundering leader of a great power” does not heed other restraints such as the democratic peace theory, the influence of international institutions or public norms against war, “the globalization of production now serves as a powerful ‘reserve stabilizer.’”

D. METHODOLOGY AND OVERVIEW

This thesis compares realist fears regarding a power imbalance in the Arctic with the possibility that a capitalist peace will override the potential for conflict escalation. To accomplish this it is necessary to explore the validity of realist concerns as well as the justification for the proposed capitalist peace success in the region.

Chapter I introduced the situation in the Arctic concerning the newly available hydrocarbons and the capabilities gap separating the United States and Russian navies relating to surface warfare on the ice-laden waters. The chapter also highlighted realist concerns regarding the unequal capabilities and the time and funding required to bring U.S. forces more in line with Russia's. Finally, Chapter I presented the two theories that will be compared throughout this work, realism and the capitalist peace. Russia's ailing hydrocarbon industry was brought to light as the means for which a capitalist peace might be obtained.

Chapter II addresses realist concerns. This chapter provides further detail of NSPD-66 as well as the U.S. Navy Arctic Roadmap and how aspects of both appear to coincide with realism's premise of power equalization. After examining both documents, Chapter II provides contemporary examples of what realists may perceive as Russian attempts to either shift the balance of power in Russia's favor or indicate aggression. This is accomplished by highlighting notable recent world events directed by Russia against other states. The purpose of Chapter II is to describe the realist solution proposed by U.S. leadership as well as point to some of the events that may have influenced the solution. Additionally, Chapter II shows how certain Russian military incursions since the drafting of both NSPD-66 and the Navy Arctic Roadmap seem to reinforce realist concerns of a looming conflict in the North.

Chapter III describes the condition of Russia's hydrocarbon industry as well as its dependence on it. As the world's leading natural gas exporter as well as the world's second leading oil exporter, the hydrocarbon industry is the foundation of Russia's economy. Moreover, Russia is the primary supplier of

natural gas to Western Europe, a relationship that factors heavily into its national security strategy. Unfortunately, both industries are plagued by antiquated means of production and near-depleted reservoirs. By presenting the importance of both oil and natural gas on Russia's economy as well as natural gas' pivotal role in its national security policy, this chapter illustrates how necessary it is for Russia to seek outside assistance. The need for this outside assistance may provide the means for Western corporations to establish FDI within Russia.

Chapter IV outlines the technological advances the Western hydrocarbon industry has relative to Russia. If Russia were to adopt the technology, it would be able to extract more product from its existing reservoirs as well as establish new wells in what are considered very difficult locations. The adoption of technology that would ensure long-term economic viability would seem like a foregone conclusion. However, the decision to allow foreign businesses to play in a large role in what Russia considers a strategic asset is not an easy one. Corporate Russia, like any other capitalist entity, will likely seek the most favorable business arrangement it can and in doing so, it may push potential investors away. Chapter IV provides an example of the Russian natural gas industry, admitting Western partners only to force the partners out once the infrastructure was in place.⁵²

Finally, Chapter V concludes the thesis by describing the potential for establishing a capitalist peace in the Arctic in lieu of continuing a realist-oriented power struggle. Additionally, Chapter V suggests two areas for further research.

By exploring the topics discussed above, this thesis develops a concept lacking in the literature: that the United States' inability to defend its Arctic interests militarily may be overcome by the calming effect of economic interdependence through the possibility of facilitating Russia's resource extraction.

⁵² Andrew Osborn, "Shell Cedes Control of Sakhalin-2 as Kremlin Exerts its Iron Fist," *The Independent*, December 12, 2006, at: <http://www.independent.co.uk/news/business/analysis-and-features/shell-cedes-control-of-sakhalin2-as-kremlin-exerts-its-iron-fist-428157.html> (accessed May 25, 2010).

II. CAUSES FOR REALIST CONCERN

Threats or seeming threats to...security abound. Preoccupation with identifying dangers and counteracting them become a way of life. Relations remain tense; the actors are usually suspicious and often hostile.⁵³

Subtle shifts in the balance of power are difficult to detect yet are of foremost importance to peace and stability. And even if detected in a timely fashion, policymakers can be slow to react. But maintaining a balance of power favorable to one's interests is one of a president's key tasks.⁵⁴

The above quotations serve to connect realism's focus on power with state leadership's role in ensuring the state accumulates as much power as necessary to ensure security. Considering the Russian proposal to augment its military capabilities in the Arctic, as well as additional Russian actions worldwide (both of which are explained in detail below), realists may perceive a Russian attempt to shift the balance of power.

Chapter II opens with an overview of NSPD-66 as well as the Navy Arctic Roadmap. The proposal to enhance the U.S. capacity to fight an Arctic war appearing in these documents appears to reflect a realist view. Following the discussion on NSPD-66 and the Roadmap, examples that may justify realist arguments are presented. The purpose of Chapter II is to highlight why realists would perceive the potential for military conflict in the Arctic and what their proposals are to prepare for it.

⁵³ Kenneth Waltz, "The Origins of War in Neorealist Theory," in *The Origin and Prevention of Major Wars*, ed. Robert Rotberg and Theodore Rabb (Cambridge: Cambridge University Press, 1989), 43.

⁵⁴ Daniel Blumenthal, "Detecting Subtle Shifts in the Balance of Power," at: http://shadow.foreignpolicy.com/posts/2010/09/03/detecting_subtle_shifts_in_the_balance_of_power (accessed October 2, 2010).

A. WASHINGTON'S REALIST POLICIES

In the final days of his final term, President George W. Bush released NSPD-66. This document, the first of its kind for almost fifteen years, outlined the position of the United States regarding its stake in the changing Arctic environment and what was to be done to secure its interests and those of the nation's allies in the region. The directive's predecessor, Presidential Decision Directive-26 (PDD-26), issued by President Clinton in 1994, did not differentiate between the Arctic and Antarctica, areas that are dissimilar in geographical features and economic potential.

Though PDD-26 addressed scientific cooperation, national security and defense, energy and economic issues, the Clinton administration omitted the Arctic from its discussion on maritime and shipping security in its national security strategy. This omission, according to Jessie C. Carmen, is a clear "symptom of the apparent invisibility of the Arctic issues in [post-Cold War] national security policy."⁵⁵ Additionally, the National Intelligence Council's 1998 publication, *Global Trends 2015: A Dialogue about the Future with Nongovernmental Experts*, mentioned the Arctic only in light of ozone depletion with no further discussion regarding the opening of shipping lanes or competition for newly uncovered resources.⁵⁶ The same was true for the U.S. Commission on National Security's 1999 publication, *New World Coming: American Security in the twenty-first century*.⁵⁷ In short, prior to President Bush's issuance of NSPD-66, the Arctic did not factor heavily into U.S. foreign policy or security considerations. Though scientists have realized the Arctic ice has been steadily decreasing for over thirty years at an exponential rate, the possibility that this

⁵⁵ Jessie C. Carmen, "Economic and Strategic Implications of Ice-Free Arctic Seas," in *Globalization and Maritime Power*, ed. Sam J. Tangredi (Washington D.C.: National Defense University Press, 2002), 171.

⁵⁶ National Intelligence Council, "Global Trends 2015: A Dialogue about the Future with Nongovernmental Experts," at: http://www.dni.gov/nic/PDF_GIF_global/globaltrend2015.pdf (accessed June 1, 2010), 29.

⁵⁷ The United States Commission on National Security/21st Century, *New World Coming: American Security in the 21st Century* (Washington D.C.: U.S. Government Printing Office, 1999).

depletion would make accessible a region long known for its inhospitable climate to potential threats has only recently been officially addressed by U.S. leadership.⁵⁸ A possible reason for this increased concern is an increasingly assertive and more powerful Russia.

NSPD-66 begins broadly and gradually narrows its focus toward the implementation of various initiatives designed to further secure the Arctic. Initially, the directive states:

The United States is an Arctic nation, with varied and compelling interests in that region. This directive takes into account several developments, including, among others: 1) Altered national policies on homeland security and defense [and] 2) The effects of climate change and increasing human activity in the Arctic region.⁵⁹

From there, the directive outlines the Bush administration's national and homeland security interests in the area.⁶⁰

1. The United States has broad and fundamental national security interests in the Arctic region and is prepared to operate either independently or in conjunction with other states to safeguard these interests. These interests include such matters as missile defense and early warning; deployment of sea and air systems for strategic sealift, strategic deterrence, maritime presence, and maritime security operations; and ensuring freedom of navigation and overflight.
2. The United States also has fundamental homeland security interests in preventing terrorist attacks and mitigating those criminal or hostile acts that could increase the United States vulnerability to terrorism in the Arctic region.
3. The Arctic region is primarily a maritime domain; as such, existing policies and authorities relating to maritime areas continue to apply, including those relating to law enforcement. Human activity in the Arctic region is increasing and is projected to increase further in coming years. This

⁵⁸ The National Snow and Ice Center, "Arctic Sea Ice News & Analysis," at: <http://nsidc.org/arcticseaicenews/> (accessed June 11, 2010).

⁵⁹ George W. Bush, "NSPD-66/HSPD-25."

⁶⁰ Ibid.

requires the United States to assert a more active and influential national presence to protect its Arctic interests and to project sea power throughout the region.

4. Freedom of the seas is a top national priority. The Northwest Passage is a strait used for international navigation, and the Northern Sea Route includes straits used for international navigation; the regime of transit passage applies to passage through those straits. Preserving the rights and duties relating to navigation and overflight in the Arctic region supports our ability to exercise these rights throughout the world, including through strategic straits.

In sum, the above interests indicate that Washington associates the security of the United States at least in part with continued access to the newly open waters off its northern coast. Ensuring access requires a mix of hard and soft power with hard power ultimately being the final solution should diplomatic negotiations fail. Recognizing an expanding role in the changing Arctic landscape and spurred on by NSPD-66, the U.S. Navy released an exploratory review of its future operations in the region.

Published just eleven months after NSPD-66, the U.S. Navy released its Arctic Roadmap to “consider the changing Arctic in developing future policy, strategy, force structure and investment.”⁶¹ Using NSPD-66 as its “primary policy guidance,” the Roadmap recognizes that while “the United States has stable relationships with other Arctic nations, the changing environment and competition for resources may contribute to increasing tension.”⁶² To mitigate this tension, the Roadmap argues that the Navy must expand its capabilities and capacity so that it might “increase its engagement in the region.”⁶³

In doing so, the Roadmap addresses a need for a fleet readiness assessment for operating in the Arctic. Strategic deterrence, an area identified in

⁶¹ J. W. Greenert, “Navy Arctic Roadmap” (Memorandum for distribution, Department of the Navy, 2009), coversheet.

⁶² *Ibid.*, 5.

⁶³ *Ibid.*

both NSPD-66 and in the fleet readiness assessment as one that deserves special attention, underscores the possibility that portions of NSPD-66 are directed toward a growing and more assertive Russian presence in the North versus a need to maintain a presence more in line with law enforcement.

Strategic deterrence is:

the actions of a state or group of states to dissuade a potential adversary from initiating an attack or conflict by the threat of retaliation by credibly demonstrating to an adversary that the costs of an attack would be too great and would outweigh any potential gains.⁶⁴

For the United States, strategic deterrence has three objectives. The first is to credibly threaten to deny an adversary the benefits or gains sought. The second is to cause unacceptable risk to a potential adversary in the event of an attack. The third objective “is to encourage adversary restraint by convincing the adversary that not undertaking the action we seek to deter will result in an outcome acceptable to him.”⁶⁵ Further, the U.S. Navy outlines two ways in which it fulfills its assigned role in strategic deterrence:

First, the Navy maintains an ASSURED SECOND-STRIKE CAPABILITY. This means that if an enemy were to launch an all-out attack, the United States could deliver massive retaliation (counterattack) even after the attack. The Navy’s fleet ballistic missile sub-marines (nuclear) (SSBNs) are the backbone of this tactic because of their high probability of surviving a nuclear attack. Second, the tactic of CONTROLLED RESPONSE is used. This means that the Navy will respond to a partial attack only to the degree required. This is hoped to prevent a general nuclear war. The SSBN fleet is also the backbone of this tactic.⁶⁶

⁶⁴ A. L. Khryapin and V. A. Afanasyev, “Conceptual Principles of Strategic Deterrence,” *Military Thought*, 14, no 1 (2005), 30.

⁶⁵ United States Strategic Command, “Deterrence Operations,” Joint Operating Concept, December 2006, 24.

⁶⁶ United States Navy, “NAVEDTRA 12966: Naval Orientation,” ed. William L. Brakin (Washington D.C.: U.S. Government Printing Office, 1991), 30.

NSPD-66 and the Arctic Roadmap's proposed assessment of the Navy's strategic deterrence capability in the Arctic region is equivalent to an investigation of its ability to strike with nuclear weapons, something with very little relevance when confronting non-state actor threats in the Northwest Passage. Further, the Roadmap highlights a need to "Initiate a Capabilities Based Assessment for Naval Arctic capabilities."⁶⁷

The purpose of the Capabilities Based Assessment is to examine the Navy's "current and required capability to execute undersea warfare, expeditionary warfare, strike warfare [and] strategic sealift."⁶⁸ The acquisition of platforms specifically designed for these roles, such as aircraft carriers and destroyers, may also prove adequate for deterring terrorist infiltration, but based on Russia's actions and its projected military presence in the North it is more logical that the capabilities based assessment is specifically designed to counter Russia. Yet the Navy is not the only branch of the U.S. military using Russian actions in the North to justify contemporary policy decisions.

On 8 August 2007, Elmendorf Air Force Base (AFB) in Anchorage, Alaska, welcomed its first of a projected forty F-22 Raptor aircraft.⁶⁹ Only the second operational military installation to receive the state-of-the-art fighters and the first Pacific-based fighter wing to accept them, the decision to station "America's most prominent air-superiority fighter"⁷⁰ so close to Russia's border may be an attempt by Washington to ensure the region's balance of power remains in favor of the United States. In 2000, when the Air Force was considering locations to base the second wing of F-22s after Langley AFB, Virginia, fielded the initial delivery; the locations under consideration were Eglin and Tyndall AFBs in Northwest

⁶⁷ J. W. Greenert, "Navy Arctic Roadmap," 14.

⁶⁸ Ibid.

⁶⁹ Mikal Canfield, "Elmendorf Welcomes F-22 Raptor," at: <http://www.af.mil/news/story.asp?id=123063874> (accessed August 9, 2010).

⁷⁰ Lockheed Martin, "F-22 Raptor: Dominating the Skies. Overwhelming the Threat," at: <http://www.lockheedmartin.com/products/f22/index.html> (accessed August 2, 2010).

Florida, Mountain Home AFB, Idaho, and Elmendorf.⁷¹ Though political and infrastructure considerations likely influenced the final outcome, the security of having a multi-role, stealth fighter in close proximity to Russia just as likely added weight to the final decision. For its part, the Russian military has not proved the decision to expand the U.S. presence in the North to be a poor one.⁷² The examples below illustrate recent events where Russia has worked against the other Arctic states. The intent is to illustrate why realists believe there is potential for a military confrontation with Russia in the North and why they are proposing a buildup in their nations' military capabilities. The remainder of this section details some of these actions.

B. MOSCOW'S REALIST POLICIES

The election of President Vladimir Putin in 2000 brought with it a shift in Russian perception of the western world.⁷³ Putin's 2007 speech delivered at the

⁷¹ GlobalSecurity.org, "F-22 Raptor Deployment," at: <http://www.globalsecurity.org/military/systems/aircraft/f-22-deploy.htm> (accessed August 2, 2010).

⁷² There are competing theories on whether Russia's military is becoming more formidable or if remains a "paper tiger." For example, the International Institute for Strategic Studies believes the Russian military poses no real threat due to antiquated equipment and poor organization. See Michael Evans, "Russian Military a 'Paper Tiger' Despite Symbolic Comeback, Says IISS," *The Times*, January 28, 2009, at: <http://www.timesonline.co.uk/tol/news/world/europe/article5599603.ece> (accessed November 1, 2010). The Jamestown Foundation concurs to an extent but acknowledges Russia's capability to carry out offensive actions. See Jacob W. Kipp, "Russia's Military Doctrine: New Dangers Appear," at: http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=36073&tx_ttnews%5BbackPid%5D=7&cHash=be6c3aeeb0 (accessed November 5, 2010). Jim Nichol, in a CRS Report for Congress, states how the Russian military "remains formidable in some respects and is by far the largest in the region." See Jim Nichol, "Russian Political, Economic, and Security Issues and U.S. Interests," *CRS Report for Congress*, November 2010.

⁷³ Sarah E. Mendelson and Theodore P. Gerber, "Us and Them: Anti-American Views of the Putin Generation," *The Washington Quarterly*, Vol. 32, No. 2 (Spring 2008), 131. The Russian generation born between 1976 and 1991 is labeled "the Putin generation." In contrast to those born of the "Helsinki" or "fall-of-the-Berlin-Wall" generations who are bound together by a desire for international human rights and democracy, Russians in their late twenties and mid-thirties "reflect and support the values and aspirations expressed by Putin. They favor the restoration of a hypersovereign [sic] Russia that remains outside the Euro-Atlantic community and resists or rejects international legal norms."

Munich Security Conference both “surprised and disappointed” American leadership regarding Russian perception of the United States.⁷⁴ According to Putin:

We are seeing a greater and greater disdain for the basic principles of international law. And independent legal norms are, as a matter of fact, coming increasingly closer to one state's legal system. One state and, of course, first and foremost the United States, has overstepped its national borders in every way. This is visible in the economic, political, cultural and educational policies it imposes on other nations. Well, who likes this? Who is happy about this?⁷⁵

Later in the speech, Putin leveled his comments at NATO, calling its perceived expansion troubling and the organization's entry into conflict illogical:

I think it is obvious that NATO expansion does not have any relation with the modernization of the Alliance itself or with ensuring security in Europe. On the contrary, it represents a serious provocation that reduces the level of mutual trust. And we have the right to ask: against whom is this expansion intended?⁷⁶

Today we are witnessing...a situation in which countries that forbid the death penalty even for murderers and other, dangerous criminals are airily participating in military operations that are difficult to consider legitimate. And as a matter of fact, these conflicts are killing people - hundreds and thousands of civilians!⁷⁷

Putin and his successor, Dmitri Medvedev, have since reinforced this anti-Western rhetoric with actions designed to both bolster Russian morale as well as send a signal to the United States and the West that a separate, distinct and more powerful Russia is the way ahead.

⁷⁴ Andrew F. Tully, "Russia: Washington Reacts To Putin's Munich Speech," *Radio Free Europe*, February 13, 2007, at: <http://www.rferl.org/content/article/1074671.html> (accessed October 29, 2010).

⁷⁵ Vladimir Putin, "Speech at the 43rd Munich Conference on Security Policy," at: http://www.securityconference.de/archive/konferenzen/rede.php?menu_2007=&menu_konferenz_en=&sprache=en&id=179& (accessed August 12, 2010).

⁷⁶ Ibid.

⁷⁷ Ibid.

1. Russia's Arctic Policies

According to Katarzyna Zysk, "Russian attitudes towards international relations in the [Arctic] region have been dominated by what can be characterized as a Russian variation on classical realist thinking."⁷⁸ Russia's perception that the United States and NATO are seeking to dominate the High North has influenced Russian policy in ways that do parallel realist theory. The policy documents and military actions relating specifically to the North as well as other Russian military endeavors around the world may indicate that Russia senses a power struggle between itself and what it perceives is an encroaching and dominant United States and NATO.

In September 2008, the Kremlin publically released *The Foundations of Russian Federation Policy in the Arctic until 2020 and Beyond*. This document calls for the creation of "general purpose military formations...capable of ensuring security under various military and political circumstances" for the Arctic. Additionally, officials are proposing the Arctic become the "leading strategic and resource base for Russia" by 2016.⁷⁹ Among Russia's other military plans, which, according to Zysk, could increase the navy's striking power in the Arctic, is the purchase of five to six aircraft carrier squadrons, twenty new multipurpose corvettes and twenty frigates.⁸⁰

Released in May 2009, the Russian Security Council's *Russian Security Strategy through 2020*, defines the foreign and domestic threats and suggests actions that will ensure the security and development of Russia.⁸¹ The document acknowledges the role hydrocarbons play in the state's national security and

⁷⁸ Katarzyna Zysk, "Russian Military Power and the Arctic," *The EU-Russia Centre Review*, no. 8 (October 2008), 81.

⁷⁹ "Russia's New Arctic Strategy," *The Journal of International Security Affairs*, (Spring 2010), 105.

⁸⁰ Katarzyna Zysk, "Russia's Arctic Strategy, Ambitions and Constraints," *Joint Forces Quarterly*, no. 57 (April 2010), 109.

⁸¹ Sophia Dimitrakopoulou and Andrew Liaropoulos, "Russia's National Security Strategy to 2020: A Great Power in the Making?" *Caucasian Review of International Affairs*, 4, no. 1 (Winter 2010).

recognizes that Russia's international position is achieved chiefly by the political use of these natural resources. The strategy further notes that Russia is prepared for the use of military force to solve problems resulting from foreign encroachment on resource-rich territory Russia feels it rightfully owns.⁸²

It is likely not a coincidence that the security documents of Russia and the United States were created around the same time. When one nation issues its stance in the North, a realist response would be to issue a counter designed to shore up and address the differences. It can be argued that Russia has taken the more aggressive stance on shoring up the differences by moving beyond the issuance of policy. As will be illustrated below, Russian actions have reinforced the realist view that political power plays are underway and serve to justify their desire for increased Arctic military capabilities.

2. Russian Military Incursions

Since 2007, North American Aerospace Defense Command (NORAD) fighter aircraft have intercepted Russian nuclear-weapon-capable bombers an estimated 12 to 18 times. One of the most recent incidents occurred on 25 August 2010 when two Canadian Air Force CF-18A Hornets departed Canadian Forces Base Cold Lake in Alberta to intercept two Tu-95 Bear bombers.⁸³ The bombers did not enter Canadian sovereign airspace, but they did break the 300-mile buffer zone that Canada claims.⁸⁴ Though this incident occurred in Canadian airspace, the relatively small stretch of Alaskan coastline is not

⁸² Katarzyna Zysk, "Russia's National Security Strategy to 2020," *GeoPolitics in the High North*, June 15, 2009, at: http://www.geopoliticsnorth.org/index.php?option=com_content&view=article&id=2&Itemid=71&limitstart=3 (accessed October 25, 2010).

⁸³ "NORAD Downplays Russian Bomber Interception," *CBC News*, August 25, 2010, at: <http://www.cbc.ca/canada/story/2010/08/25/cf-18s-russians-airspace.html> (accessed August 31, 2010).

⁸⁴ Aviation Glossary, "Air Defense Identification Zone (ADIZ)," at <http://aviationglossary.com/air-traffic-control-term-definition/air-defense-identification-zone/> (accessed August 4, 2010). The 300 nm zone is the Canadian Air Defense Identification Zone (ADIZ). An ADIZ is "The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security."

immune from the probing of Russian aircraft. In February 2008, two F-22s based in Elmendorf intercepted and escorted two Tu-95s out of the U.S. buffer zone. The following month, two F-15C Eagles, also based in Elmendorf, conducted the same mission.⁸⁵

Further west, Russian antagonizing of U.S. military assets was more aggressive. While the United States was conducting exercises in international waters near South Korea in March 2009, two Il-38 May maritime-patrol aircraft overflew the U.S. aircraft carrier USS *John C. Stennis* at an altitude of 500 feet. The following day, two Tu-95s overflew the USS *Stennis* and the command ship USS *Blue Ridge* multiple times at an altitude of 2000 feet.⁸⁶ A similar incident occurred in September 2010 on the Barents Sea. On 10 September, an Il-38 flew 50 feet from the side of the guided missile frigate, USS *Taylor*. The following day, a Russian Helix helicopter circled the vessel at low altitude.⁸⁷

Closer to U.S. shores, the pair of Akula-class Russian attack submarines appearing off the Eastern Seaboard in August 2009 caused Defense Department officials to worry.⁸⁸ Though the United States and Russia routinely placed submarines off one another's coasts during the Cold War, the White House commented that the August incident was "the first time in roughly a decade that we've seen this kind of behavior."⁸⁹

Norway has also experienced Russian incursions. For a time in 2008, fighters launched to intercept Russian warplanes coming close to their ADIZ on

⁸⁵ "U.S. Jets Escort Russian Bombers off Alaska Coast," *CNN*, March 26, 2008, at: <http://www.cnn.com/2008/US/03/26/us.russian.planes/index.html> (accessed August 14, 2010).

⁸⁶ Luis Martinez, "Russian Planes Overfly U.S. Carrier," *ABC News*, March 19, 2009, at: <http://blogs.abcnews.com/politicalradar/2009/03/russian-planes.html> (accessed August 1, 2010).

⁸⁷ Barbara Starr, "Pentagon: 2 Russian Aircraft Buzzed U.S. Warship," *CNN*, September 17, 2010, at: <http://www.cnn.com/2010/US/09/17/warship.russian.aircraft/index.html?hpt=T2> (accessed September 10, 2010).

⁸⁸ Mark Mazzetti and Thom Shanker, "Russian Subs Patrolling Off East Coast of U.S.," *The New York Times*, August 4, 2009, at: <http://www.nytimes.com/2009/08/05/world/05patrol.html> (accessed November 1, 2010).

⁸⁹ Adam Entous, "Russian Subs Patrol off U.S. East Coast: Officials," *Reuters*, August 5, 2009, at: <http://www.reuters.com/article/idUSTRE5740DV20090805?pageNumber=1> (accessed October 25, 2010).

average once per week. The Russian navy has also conducted naval maneuvers amidst Norway's oil and gas platforms in the North Sea. The aircraft sorties, which accompany these maneuvers, have grounded all of Norway's offshore helicopter flights due to the danger of a potential mid-air collision, causing the production companies a loss of revenue. Perhaps more troubling was the mock bombing run conducted against Norway's northern command center at Bodø as well as three other unpublicized locations.⁹⁰

Though all incursions were detected early and monitored constantly by allied military assets, realists may interpret the Russian aircraft and naval maneuvers as an attempt by Russia to disrupt the balance of power. Yet these are not the only events that have fueled realists' anxiety over Russian actions. Russian actions in other areas of the world may appear to realists as indications of a Russian effort to reassert itself as a world power that is willing and capable of influencing world affairs.

3. The Georgian War

The Russian-Georgian war fundamentally altered western perceptions of Russia. According to authors Eugene Rumer and Angela Stent:

The Russian–Georgian war marked the end of a phase in East–West relations, that began with the blossoming of perestroika in the Soviet Union, gained momentum with the collapse of Communism in Eastern Europe and eventually the Soviet Union itself, survived the turbulence of the Yeltsin years and regained momentum early in the Bush–Putin era. For nearly two decades, US policy toward Russia was guided by a commitment to integrate Russia into the West and a belief that the new Russia sought a genuine partnership with the West. The war and its aftermath sent the United States back to the drawing board, seeking to redefine the relationship with a different Russia than it had initially anticipated.⁹¹

⁹⁰ "The Arctic Contest Heats Up." *The Economist*, October 9, 2008, at: <http://www.economist.com/node/12381767> (accessed November 4, 2010).

⁹¹ Eugene Rumer and Angela Stent, "Russia and the West," *Survival*, 51, no. 2 (April-May 2009), 92.

The war underscored major sources of disagreement between the United States and Russia. State leadership's opinions vary concerning the causes of the conflict and who was responsible for escalation, but Russian and American viewpoints are in opposition.

The Bush Administration's position following Russia's incursion into Georgia was very much anti-Russia. Despite Presidents Bush and Putin signing a "framework agreement" declaring that "the era in which the United States and Russia considered one another an enemy or strategic threat has ended" only four months previously, Russia executed and continued their operation in the face of U.S. opposition.⁹² Secretary of Defense Robert Gates declared that:

Russia's behavior...called into question the entire premise of that dialogue and has profound implications for our security relationship going forward, both bilaterally and with NATO. If Russia does not step back from its aggressive posture and actions in Georgia, the U.S.-Russian relationship could be adversely affected for years to come.⁹³

Russian leadership, in contrast, not only disregarded U.S. opposition but also blamed the United States for initiating the conflict. In August 2008, Prime Minister Putin openly accused the United States of encouraging Georgia to attack the region of South Ossetia for the purpose of benefitting either John McCain's or Barack Obama's presidential campaign. He also asserted, "U.S. citizens were indeed in the area in conflict. They were acting in implementing those orders doing as they were ordered, and the only one who can give such orders is their leader."⁹⁴ Additionally, on 5 November 2008, Russian President Medvedev reinforced Putin's earlier remarks. He declared that U.S. "selfish" foreign policy was the cause of Russia's invasion. He continued by stating, "The

⁹² Steven Lee Myers and Thom Shanker, "Bush Aides Say Russia Actions in Georgia Jeopardize Ties," *The New York Times*, August 14, 2008, at: <http://www.nytimes.com/2008/08/15/world/europe/15policy.html> (accessed July 14, 2010)

⁹³ Ibid.

⁹⁴ Matthew Chance, "Putin Accuses U.S. of Orchestrating Georgian War," *CNN*, August 28, 2008, at: <http://www.cnn.com/2008/WORLD/europe/08/28/russia.georgia.cold.war/index.html> (accessed August 1, 2010).

conflict in the Caucasus was used as a pretext for sending NATO warships to the Black Sea and then for the forceful foisting on Europe of America's anti-missile systems."⁹⁵ These accusations reverberated throughout Washington and likely influenced the drafting of policy designed to confront the changing Arctic landscape. With the anxiety over a militarily aggressive Russia permeating what was once a hopeful pathway to international cooperation, actions by the former Soviet Union to influence U.S. allies have also increased concern over the states' future relationship.

4. Tensions Over Manas Air Base

The Transit Center at Manas is an Operation Enduring Freedom staging area for NATO strike and transport aircraft flying troops and supplies into and out of Afghanistan. The air base is located at Manas International Airport, near Bishkek, the capital of Kyrgyzstan. Since the arrival of the U.S. military in December 2001, the facility has moved approximately 15,000 service members and 500 tons of cargo monthly into Afghanistan and has become the primary resupply area in the north after the United States removed all assets from Karshi-Khanabad in southern Uzbekistan in 2005.⁹⁶

The issue with Manas, as it relates unease over Russian foreign policy, occurred shortly after President Obama's inauguration. In February 2009, the Kyrgyz parliament voted 78 to 1 to force the Americans out of Manas.⁹⁷ Citing a U.S. decision not to renegotiate the terms of the facility's lease, Kyrgyzstan President Kurmanbek Bakiyev announced that the United States had 180 days to vacate the base. The verdict passed shortly after Russia applied pressure on Kyrgyzstan by first launching an attack on Kyrgyzstan's internet infrastructure in the weeks leading up to the decision, something other ex-Soviet states

⁹⁵ Michael Stott, "Russia to Station Missiles Near Poland," *Reuters*, November 5, 2008, at: <http://www.reuters.com/article/idUSTRE4A11PT20081105> (accessed July 15, 2010).

⁹⁶ Mark Thompson, "Obama Loses a Key Base for Afghanistan," *Time*, February 19, 2009, at: <http://www.time.com/time/world/article/0,8599,1880686,00.html> (accessed July 23, 2010).

⁹⁷ "Kyrgyz MPs Vote to Shut U.S. Base," *BBC News*, February 19, 2009, at: <http://news.bbc.co.uk/2/hi/asia-pacific/7898690.stm> (accessed July 23, 2010).

experienced when under pressure from Moscow. Next, Russia agreed to loan Kyrgyzstan \$2.2 billion as well as give \$350 million in write-offs and grants.⁹⁸ These actions, put together, effectively pressured the Kyrgyz government into dismissing the United States.

In order to secure the base for the future, U.S. officials agreed to increase the amount paid for use from \$85 million to \$161 million, an amount equal to seven percent of the Kyrgyzstan government's annual budget.⁹⁹ If there was any doubt as to the Russian influence on the Kyrgyz decision, Russian statements following the Kyrgyz policy reversal allowing the U.S. forces to remain in the country provided a clear indication of who was behind the seemingly surprise decision to expel the United States. According to Andrei Nesterenko, a spokesperson for the Russian foreign ministry, "The Kyrgyz leadership has repeatedly stated that the decision to close the base was final and not subject to revision." Additionally, a Russian senior foreign ministry official noted, "The news that the base would be preserved was, for us, a very unpleasant surprise."¹⁰⁰

The U.S. presence so close to the Russian border was troublesome to Russian leadership. As President Putin mentioned in his Munich speech, the perceived encroachment of NATO is a threat to national security for the Russian Federation. The attempt to expel U.S. forces in order to lessen U.S. power in the area is indicative of a realist solution and when it failed, the Russian officials' reactions served to confirm this.

⁹⁸ Adrian Bloomfield, "US Troops Ordered out of Kyrgyzstan after Russia Deal," *The Telegraph*, February 4, 2009, at: <http://www.telegraph.co.uk/news/worldnews/asia/kyrgyzstan/4513296/US-troops-ordered-out-of-Kyrgyzstan-after-Russia-deal.html> (accessed June 22, 2010).

⁹⁹ Ibid.

¹⁰⁰ Adrian Bloomfield, "Russia Accuses Kyrgyzstan of Treachery over U.S. Military Base," *The Telegraph*, June 24, 2009, at: <http://www.telegraph.co.uk/news/worldnews/asia/kyrgyzstan/5624355/Russia-accuses-Kyrgystan-of-treachery-over-US-military-base.html> (accessed June 25, 2010).

5. Arktika 2007

One the most telling aspects of Russia's assertive nature in the Arctic occurred on 2 August 2007. On that morning, two submersibles, *Mir 1* and *Mir 2*, on the privately funded scientific expedition *Arktika 2007* descended nearly 14,000 feet to the bottom of the Arctic Ocean, obtained samples of the sediment and placed a three-foot-tall titanium Russian flag on the seabed.¹⁰¹ As if to add an exclamation point to a cause beginning almost six years earlier, Russia made a very public, very loud claim that an over 460,000 square mile area of the Arctic Ocean, the size of France and Germany combined, was rightfully theirs.¹⁰²

Hoping to gain exclusive rights to a section of the hydrocarbon-rich region, Russia first submitted its claim to the United Nations Convention on the Law of the Sea (UNCLOS) in December 2001 but was subsequently rebuked when the Convention returned the claim asking for further evidence that Russia's continental landmass extended so far into the seabed. The purpose of the samples acquired during *Arktika 2007* was to bolster their territorial claim and the mission may have gone relatively unnoticed by the world had the submersibles not placed the flag and broadcast its placement for the world to see.¹⁰³

Members of the State Duma publically hailed the mission as "a new stage of developing Russia's polar riches" and declared the expedition "fully in line with Russia's strategic interests" and expressed pride that Russia "remains the leader

¹⁰¹ Alex Shoumatoff, "The Arctic Oil Rush," *Vanity Fair*, May 2008, at: http://www.vanityfair.com/politics/features/2008/05/arctic_oil200805 (accessed November 12, 2010).

¹⁰² Fred Weir, "As Icecaps Melt, Russia Races for Arctic's Resources," *The Christian Science Monitor*, July 31, 2007, at: <http://www.csmonitor.com/2007/0731/p01s01-woeu.html> (accessed April 17, 2010).

¹⁰³ Tom Parfitt, "Revealed: Why Those Russian Submarine Heroics Might Have Looked a Little Familiar," *The Guardian*, August 11, 2007, at: <http://www.guardian.co.uk/world/2007/aug/11/russia.television> (accessed October 12, 2010). There is some controversy surrounding the alleged placement of the flag. A Finnish teen connected Russian news network Rossiya's footage of the submersibles' descent with footage from the 1997 movie, *Titanic*. Executives from Rossiya refused to comment on the accusations. However, to date, there is no evidence that the actual flag placement and the accompanying photographs were artificially produced.

in conquering the Arctic.”¹⁰⁴ North America’s leadership had a very different reaction. Canadian Foreign Minister Peter MacKay declared, “This isn’t the 15th century. You can’t go around the world and just plant flags and say ‘We’re claiming this territory.’”¹⁰⁵ Additionally, United States State Department deputy spokesman Tom Casey proclaimed, “I’m not sure of whether they’ve put a metal flag, a rubber flag or a bed sheet on the ocean floor. Either way, it doesn’t have any legal standing or effect on [Russia’s territorial] claim.”¹⁰⁶

C. NO CHANGE ON THE HORIZON

Portions of NSPD-66 and the Navy Arctic Roadmap appear to be attempts at countering Russian activities in the Arctic. Considering Russia’s “increasingly aggressive foreign policy actions,” these documents seem justified in checking what appears to be a more capable Russian military.¹⁰⁷ Forecasting a coming military threat in the area, a realist response would be to strengthen military capabilities in preparation. Though the proposed investments in war materiel may deter conflict escalation between Russia and the United States in the Arctic, the question of their necessity remains. With a 10-year requirement to manufacture an Arctic-capable vessel, even if construction were to begin immediately, the Russians would be too far ahead of U.S. capabilities for U.S. warships to become a threat. Perhaps the Obama Administration realizes this or perhaps the current recession prevents policy pursuance, but the President’s fiscal year 2011 budget request includes no funding for new Arctic vessels.¹⁰⁸

¹⁰⁴ Reuters, “Russia Plants Flag on Arctic Floor,” *CNN*, August 4, 2007, at: http://www.cnn.com/2007/WORLD/europe/08/02/arctic.sub.reut/index.html?eref=rss_world (accessed July 21, 2010).

¹⁰⁵ Reuters, “Russia Plants Flag on Arctic Floor.”

¹⁰⁶ *Ibid.*

¹⁰⁷ Nichol, “Russian Political, Economic, and Security Issues and U.S. Interests,” 30.

¹⁰⁸ Ariel Cohen, “From Russian Competition to Natural Resources Access: Recasting U.S. Arctic Policy,” *The Heritage Foundation*, June 15, 2010, at: <http://www.heritage.org/research/reports/2010/06/from-russian-competition-to-natural-resources-access-recasting-us-arctic-policy> (accessed July 30, 2010).

This leaves the door open for other means of calming Arctic tensions. Before discussing the prospect of a capitalist peace, it is necessary to understand Russia's need for FDI.

III. RUSSIA'S DEPENDENCE ON AND THE CONDITION OF ITS HYDROCARBONS

Almost half of Russia's national income and approximately 65 percent of its foreign exchange earnings come from its energy sector.¹⁰⁹ The nation's proven oil reserves place it firmly in the top ten international oil states and its production output makes it the world's number two oil exporter behind Saudi Arabia. Russia also has substantial proven natural gas reserves and is the world's number one exporter of natural gas.¹¹⁰ As a result, the Russian economy is heavily dependent on oil and natural gas exports while also being subordinate to oil price fluctuations and the uninterrupted flow of natural gas. Though important, gross domestic product is not the only aspect of Russia's welfare associated with hydrocarbons.

The Energy Strategy of Russia for the Period up to 2020 declares, "Energy security is the most important element in Russia's national security."¹¹¹ With the welfare of the state so closely tied to the energy market and, as will be explained below, the government so closely tied to the energy corporations, it is not hard to see why security and energy go hand-in-hand. This fusion of policy and resources is becoming a liability as Russia's historic ability to meet customer demand is faltering. The decline in production is due in large part to a decline in productive energy deposits. Russian leadership's new focus on the Arctic is more than just an effort to expand its GDP. They are aware of the fact that tapping into Arctic deposits is also a strategic imperative.¹¹²

Russia's oil and gas infrastructure is failing. Its historically productive oil and gas fields are beginning to show signs of exhaustion and the industry's

¹⁰⁹ Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*, 144.

¹¹⁰ Bernard A. Gelb, "Russian Natural Gas: Regional Dependence" *CRS Report for Congress*, January 2007, 1.

¹¹¹ Jeffrey Mankoff, "Eurasian Energy Security," *Council on Foreign Relations*, February 2009, at: www.cfr.org/content/publications/attachments/Eurasia_CSR43.pdf (accessed September 4, 2010), 4.

¹¹² Emerson, *The Future History of the Arctic*, 205.

infrastructure has received very little attention since the fall of the Soviet Union. Because the neglect is so widespread, there are insufficient funds to exploit untouched oil fields and there is insufficient indigenous technology to exploit the gas fields in the Arctic, both of which are necessary for Russia's continued viability. Additionally, the transport of both products may no longer be feasible if the transportation system is not sufficiently upgraded. If allowed to continue operations without regard for the industry's deterioration, Russia's economy and security will be in jeopardy.

Russia has little choice but to look to the Arctic for new sources of natural gas and oil. In doing so, it exposes a historically proud society to the prospect of outside assistance, for without this help the nation cannot survive.¹¹³ The purpose of Chapter III is to highlight the problems associated with Russia's current hydrocarbon industry and to outline what investments are required to bring it up to a point where it is sustainable for the long term. The chapter opens with a brief discussion of the oil industry followed by a more detailed examination of the natural gas industry. Chapter III concludes with an overview of the difficulties associated with harvesting hydrocarbons in the harsh Arctic environment.

A. OIL

If there is at least one positive aspect of global warming, it is the uncovering of natural resources in the Arctic such as oil. The idea that the world will one day run out of crude is not new nor is it entirely without merit. A 2007 report by the Energy Watch Group, published one year before the U.S. Geological Survey announced its findings of vast hydrocarbon reservoirs in the Arctic, declared "peak oil is now."¹¹⁴ This finding not only shifts the timeline much earlier than other peak oil theories mentioned in the article, but also challenges

¹¹³ Ronald Hingley, *The Russian Mind* (New York: Charles Scribner's Sons, 1977), 147 and Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*, 153.

¹¹⁴ Werner Zittel and Jorg Schindler, "Crude Oil the Supply Outlook," *Energy Watch Group*, October 2007, at: http://www.energywatchgroup.org/fileadmin/global/pdf/EWG_Oilreport_10-2007.pdf (accessed May 20, 2010), 12.

those who believe the theory of peak oil is unfounded.¹¹⁵ Perhaps the most startling aspect of the Energy Watch Group's article is that after the peak the declining rate of the world's supply is much steeper than originally forecast.

In every oil-producing region of the world, the large oil deposits are developed first and only after they become exhausted are the smaller deposits developed. As soon as the first large fields of a region have passed their production peak, an increasing number of new and generally smaller fields must be developed to compensate for the decline in the production base. From there on, it becomes increasingly difficult to sustain the rate of the production growth. A race begins which can be described as follows: More and more large oil fields show declining production rates. The resulting gap is filled by bringing into production smaller and smaller fields. However, these smaller fields reach their peak much faster and then contribute to the overall production decline. Consequently, the region's production profile resulting from the aggregation of the individual fields' production profiles becomes more and more skewed and the collective decline of the producing fields becomes steeper and steeper. This decline is compensated for by again connecting more ever smaller fields, thus creating a seemingly inescapable cycle.¹¹⁶ Breaking the cycle can only be accomplished by tapping into fields capable of producing yields similar to those experienced from the original large deposits.

For nations dependent on oil as a principal source of revenue, a reduction in supply will devastate their economies. For Russia, the devastation will be an economic catastrophe. Currently, Russia produces approximately ten million barrels of oil per day and of this 75 percent is exported, making Russia the world's second leading oil exporter after Saudi Arabia.¹¹⁷ Although upswings in the price of oil have historically created enormous sums of money for the state,

¹¹⁵ Ugo Bardi, "Peak Oil: The Four Stages of a New Idea," *Energy* 34, no. 3 (March 2009).

¹¹⁶ Zittel and Schindler, "Crude Oil the Supply Outlook," 9.

¹¹⁷ Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*, 143.

just as quickly the money can disappear altogether. On average, a \$1 per barrel change in oil prices results in a \$1.4 billion change in Russian government revenues in the same direction.¹¹⁸

The political chaos of the early 1990s following the collapse of the Soviet Union took its toll on the oil industry, as did the poor price of oil during the mid-1990s. Oil's recovery around the turn of the century, however, helped Russia emerge from a near depression and return to the world stage. When Russia's \$200 billion economy nearly defaulted, for example, oil helped the gross domestic product reach \$1.4 trillion by 2008; but this was also the last year of relative prosperity.¹¹⁹ In April 2008, a Lukoil executive revealed that Russia's output had fallen for the first time in a decade and appeared to continue its decline for the foreseeable future.¹²⁰

The reasons for the decline in production vary but stem primarily from a lack of fiscal responsibility. Despite the high revenues, the industry was plagued by poor regulation, little reinvestment into infrastructure, overreliance on aging equipment and faith that fields in use could be sustained indefinitely. Following the collapse of the Soviet Union, the discovery and development of new sources for oil production have been almost nonexistent. In 2006, for example, 24 percent of Russia's oil came from fields that had already produced 60 percent of their total volume.¹²¹ Recognizing the potential for disaster, almost a decade before the production decline set in, President Putin called on industry executives to "halt the lagging growth in reserves relative to the volume of mineral resources extracted and expand the study and exploitation for the resources of the [Arctic]

¹¹⁸ Lionel Beehner and Toni Johnson, "Global Oil Trends," *Council on Foreign Relations*, October 18, 2007, at: http://www.cfr.org/publication/9484/global_oil_trends.html (accessed September 15, 2010).

¹¹⁹ Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*, 67.

¹²⁰ BBC News, "'Threat' to Future of Russia Oil," *BBC News*, April 15, 2008, at: <http://news.bbc.co.uk/2/hi/7348463.stm> (accessed November 16, 2010).

¹²¹ Energy Information Administration, "Russia," *Country Analysis Briefs*, May 2008, at: <http://www.eia.doe.gov/cabs/russia/full.html> (accessed September 4, 2010).

continental shelf and open seas.”¹²² Few championed the president’s cause. As of early 2007, Russia had only 58 wells in the Arctic versus Norway’s 1,500.¹²³ However, Russia’s reluctance to drill is not tied to a lack of proven reserves, only its ability to exploit them.

British Petroleum analysts estimate that Russia possesses approximately 80 billion barrels in untapped reserves though *Oil and Gas Journal* estimates the figure closer to 60 billion barrels.¹²⁴ Both of these figures pale in comparison to leading industry figures who believe there may be as much as 100 billion barrels.¹²⁵ Thus, the problem is not discovering the reserves; the problem is developing them and overcoming historically poor extraction techniques.

The Soviet model of oil production still in use today is underscored by a reliance on relative short-term benefits versus industrial longevity. Always adhering to the goal of meeting the mandated end-of-year target, the industry’s method of extraction is characterized by the drilling of many low-yield, shallow wells versus fewer high-yield deeper wells. Though this may be partially due to the poor-quality Soviet steel being unable to drill through harder ground, a more realistic culprit is the backwards incentives proposed by Moscow. Oil well operators have historically been rewarded based on the number of meters drilled rather than the size of the deposit discovered. This policy crippled the industry’s longevity as industry leaders came to rely on overly rapid production of oil fields resulting in output being “much lower than would have been technically feasible had the fields been developed more carefully...Unlike the West, there was no incentive to invest time and money in improving production technologies or developing enhanced recovery techniques.”¹²⁶

¹²² Emerson, *The Future History of the Arctic*, 206.

¹²³ Ibid.

¹²⁴ Howard, *Gold Rush: The New Race for Tomorrow's Natural Resources*, p. 143 and Fred Weir, “Has Russian Oil Output Peaked?” *The Christian Science Monitor*, May 28, 2008, at: <http://www.csmonitor.com/World/Asia-South-Central/2008/0528/p01s04-wosc.html> (accessed November 16, 2010).

¹²⁵ “Russia’s Oil Industry: Trouble in the Pipeline,” *The Economist*, 8 May 2008.

¹²⁶ Emerson, *The Future History of the Arctic*, 208.

The brief turnaround experienced at the turn of the twentieth century indicated Russian recognition of its previous mistakes and an attempt to regain some of what it potentially left behind in its oil reserves. Reworking some of its extraction methods using relatively basic engineering techniques, Russian firms were able to increase production to almost 10 million barrels per day (bpd) from 6 million bpd. By 2008, however, the trend reversed and deposits in the two largest producing regions, at Khanty-Mansi Autonomous Okrug in Western Siberia and in the Volga-Urals, both of which combine to form two thirds of Russia's overall yield, began to run dry.¹²⁷

Russia is also experiencing difficulties with regard to efficiently exporting oil. Transneft, a state-owned corporation, owns Russia's entire oil pipeline system. Due to neglected infrastructure as well as a lack of expansion, the current methods used to transport oil are incapable of moving the amount of crude producers aspire to export. It is estimated that only about 4 million bpd of the 6.7 million barrels designated for export are capable of being moved via pipeline. The remainder is shipped via more expensive methods such as by rail.¹²⁸ Given the historically fluctuating price of oil, the use of more costly transportation to satisfy export market demand may equate to a net loss if prices fall too far. Assuming peak oil is correct this loss will eventually be overcome when prices are driven up by international demand as world supply begins to dwindle. However, the net loss may continue indefinitely if less expensive sources come on line and delay the arrival of peak oil. Once oil has peaked and is too expensive to extract, Russia will have to rely primarily on gas revenues; the oil windfall profit tax will cease to fatten its coffers.

The International Energy Agency predicts oil prices will average \$100 leading up to 2015 at which time they will steadily increase to \$120 per barrel by 2030.¹²⁹ The Russian government, much more optimistically than the Energy

¹²⁷ Howard, *Gold Rush: The New Race for Tomorrow's Natural Resources*, 145.

¹²⁸ Gelb, "Russian Natural Gas: Regional Dependence," 3

¹²⁹ Emerson, *The Future History of the Arctic*, 190.

Watch Group, predicts that at its current rate of production the nation will reach its maximum output in 2020, versus 2007, at which point production rates will freefall.¹³⁰ In short, without exploiting its Arctic reserves, Russia's ability to remain a cornerstone of the world's oil market is doomed. Recognizing this state's precarious position, Russian President Dmitry Medvedev addressed the nation in 2009 stressing the need for Russia to break from its dependence on an energy-based economy.¹³¹ However, as of yet Russia has not migrated away from its reliance on the oil and gas market.

B. NATURAL GAS

Russia is the world's largest natural gas exporter and the primary natural gas supplier to Europe and adjacent former Soviet states.¹³² According to Charles Emmerson, Associate Director of the World Economic Forum:

Were Russian oil production to peak, the direct consequences would be mostly economic...But a shortfall in Russia's production of natural gas would be altogether more serious, spelling disaster for Russia's geopolitical ambitions and undermining Russia's leverage over its European consumers.¹³³

This leverage has become a major component of Russia's national security and relates directly to its dealings with the West. For example, Germany imports 39 percent of its domestically consumed natural gas from Russia and Austria imports 69 percent. Former Soviet states such as Moldova, Latvia, Georgia and Estonia all receive 100 percent of their natural gas from Russia.¹³⁴ As such, Russia commands an enviable business position within Europe and surrounding areas; if communities wish to stay warm they are obligated to

¹³⁰ Emmerson, *The Future History of the Arctic*, 206.

¹³¹ President Medvedev's speech declared that the economy should diversify, "Instead of a primitive economy based on raw materials we will create a smart economy." See Eteri Kvintradze, "Russia's Output Collapse and Recovery: Evidence from the Post-Soviet Transition," 3.

¹³² Gelb, "Russian Natural Gas: Regional Dependence," 1.

¹³³ Emmerson, *The Future History of the Arctic*, 205.

¹³⁴ Gelb, "Russian Natural Gas: Regional Dependence," 3.

purchase the bulk of their heat source from one supplier. Russia's monopoly on natural gas is a cornerstone of its economy and because of its monopoly status incentives to improve the industry are virtually nonexistent.

Gazprom, a state-owned corporation, controls the vast majority of Russian natural gas sources and its entire pipeline infrastructure. Gazprom is also the only corporation permitted to export natural gas, thereby allowing the state direct influence on all product required by NATO allies. The Russian state's influence on Gazprom's business practices may bode well for the state's foreign policy but this influence also casts doubt on the corporation's ability to sustain operations into the future.

Gazprom emerged out of the former Soviet Gas Ministry, which was created to oversee the USSR's newly emerging natural gas industry in 1965. In 1989, the ministry changed its name to Gazprom and, in 1993, the corporation reorganized into a shareholding company known as RAO Gazprom. Finally, in 1998, the company adopted its current name, OAO Gazprom. In 2005, the Russian state became the corporation's majority shareholder by amassing 51 percent of all shares. The state's heavy involvement resulted in a mix of corporate stakeholders and decision makers that seemingly work against one another thus forming a very non-traditional business model.¹³⁵ According to Ian Hague, co-founder of a New York-based fund that invests in Russian industry, "[Gazprom] has many of the attributes of a company, like outside shareholders. It files accounts. It talks to investors. But the economics of what it does has very little resemblance to a profit maximizing firm."¹³⁶ The policies enacted as a result of state ownership are responsible for the aged and degraded infrastructure that Gazprom is using to not only supply its domestic market but also its heavily dependent export customers as well.

¹³⁵ Roman Kupchinsky, "Russia: Gazprom--A Troubled Giant," *Radio Free Europe*, January 5, 2006, at: <http://www.rferl.org/content/article/1064448.html> (accessed September 5, 2010).

¹³⁶ Hanna Ingber Win, "Gazprom, Russia's Largest Company, Acts More Like a Government," *The Huffington Post*, February 14, 2009, at: http://www.huffingtonpost.com/2009/01/14/gazprom-russias-largest-c_n_157858.html (accessed September 9, 2010).

Due of state influence, Gazprom is forced to supply the domestic market with inexpensive, government subsidized, natural gas. Russia's Federal Tariff Service establishes fixed wholesale prices at which Gazprom must sell its entire domestic market-bound product. For example, in 2003 Russians were charged between \$15 and \$20 per thousand cubic meter (tcm) for natural gas.¹³⁷ In contrast, European countries during the same period paid from \$159 per tcm in Finland to \$735 per tcm in Denmark.¹³⁸ Since the domestic market accounts for 70 percent of Gazprom's quantity sold, the exported 30 percent is the only source of income from gas sales. To compensate for this fiscally poor arrangement, Gazprom has invested in areas unrelated to natural gas production and transportation.¹³⁹ This has understandably generated criticism from both the citizens of Russia as well as some of Russia's foreign gas customers who recognize that diverting scarce funds away from infrastructure may impact their own future supply.¹⁴⁰

The natural gas infrastructure currently in use traces its lineage to massive investments, which took place during the late Soviet period. As a result, 40 percent of the pipelines are between 21 and 33 years old and 20 percent are over 33 years old.¹⁴¹ In 2005, Gazprom announced its intent to provide natural

¹³⁷ David G. Torr and Peter D Thomson, "The Merits of Dual Pricing of Russian Natural Gas," *The World Economy*, 27, no. 8 (2004), 1173.

¹³⁸ Kupchinsky, "Russia: Gazprom--A Troubled Giant."

¹³⁹ Laura Solanko and Pekka Sutela, "Too Much or Too Little Russian Gas to Europe?" *Eurasian Geography and Economics*, 50, no. 1 (2009), 63. Gazprom owns its own bank, Gazprom Bank; an insurance company, Sogaz; a media holding company, Gazprom Media; and the Zenit soccer team in St. Petersburg. Additionally, Gazprom is financially involved with such investments as electricity generation, oil production and retail distribution to several countries.

¹⁴⁰ Nazrin Mehdiyeva, "Russia Versus Gazprom," *European Energy Review*, November/December 2008, 52 and Dan Roberts, "Russian Energy Group with the Power to Plunge Europe into Darkness," *The Guardian*, January 11, 2010, at: <http://www.guardian.co.uk/business/dan-roberts-on-business-blog/2010/jan/11/gas-oilandgascompanies> (accessed September 3, 2010)

¹⁴¹ Mehdiyeva, "Russia Versus Gazprom," 53, and Jason Dearen, "Aging Gas Pipe at Risk of Explosion Nationwide," *Middletown Journal*, September 13, 2010, at: <http://www.middletownjournal.com/news/nation-world-news/aging-gas-pipe-at-risk-of-explosion-nationwide-915274.html> (accessed September 13, 2010). The life expectancy of a steel gas pipe is 40 years.

gas to all Russians but as of 2008, only 61.7 percent of Russians are “gasified” and only 4 percent of those living in Siberia (where most of the gas is harvested) are connected to the pipeline network.¹⁴² The problem is incentive. Pipeline construction and maintenance is expensive and due to the limited population in the eastern areas and the artificially low price they would pay for gas, it is not in the company’s financial interest to provide gas to its fellow citizens. Because of the lack of local incentive, the only profit gaining enterprises for the corporation are gas exports and the additional business ventures. In 2006, President Vladimir Putin commented on Russia’s notoriously small investment in its energy sector, stating that “not many people know that last year investment in capital assets came to \$121 billion and of this total only \$8.7 billion was in the oil and gas sector.”¹⁴³ The unfortunate conclusion from these figures is that only 7 percent of Russia’s total investment is allocated to the industry that provides over 60 percent of its exports and almost 50 percent of its state revenues.¹⁴⁴

Climate change is working against the Russians as well. Sixty percent of the Russian continent is located in permafrost regions, which, due to global warming, are beginning to thaw. The thaw is causing structural foundations designed only for frozen, stable surfaces to shift and buckle.¹⁴⁵ Because of the warming climate, the number of accidents occurring annually on the almost 220,000 miles of pipeline (oil and gas combined) is increasing. Approximately 21 percent of the accidents are the result of mechanical damage occurring due to the “deformation and weakening of the foundations anchored in permafrost.”¹⁴⁶ Repair of these lines is costly and shifts funding away from other infrastructure

¹⁴² Mehdiyeva, "Russia Versus Gazprom," 52.

¹⁴³ Anders Aslund, "Russia Energy and the European Union: Perspectives on Gazprom," Speech before the European People's Party, Brussels, May 15, 2008.

¹⁴⁴ Ibid.

¹⁴⁵ Oleg Anisimov and Svetlana Reneva, "Permafrost and Changing Climate: The Russian Perspective," *Ambio* 35, no. 4 (2006), 169.

¹⁴⁶ Ibid., 173.

investments as well as from remedying the most pressing issue for Gazprom and the Russian government, its depleting supply of natural gas.

According to the U.S. Energy Information Administration's (EIA) 2008 Country Analysis Brief:

Gazprom's natural gas production forecast calls for only modest growth. Russia's natural gas sector has been stunted primarily due to aging fields, state regulation, Gazprom's monopolistic control over industry, and insufficient export pipelines. Three major fields (called the "Big Three") in Western Siberia...comprise more than 70 percent of Gazprom's total natural gas production, but these fields are now in decline, and the government and Gazprom each project steep declines in Russia's natural gas output between 2008 and 2020.¹⁴⁷

The EIA further notes that Gazprom's annual investments have totaled approximately \$7 billion since 2003 yet the bulk of this amount has been diverted to foreign acquisitions and additional export infrastructure. According to EIA calculations, Russia must invest at least \$11 billion annually to bring new sources on line as well as upgrade its ailing domestic systems in order to meet forecast demand. If this investment is not forthcoming, the natural gas industry's output will decline at a greater rate than it has in recent years.¹⁴⁸ The nation's dependence on natural gas exports for both income and national security is quickly becoming a problem.

As currently online natural gas deposits run dry, the international consumers will seek additional sources of fuel. Once the new infrastructure is in place with these new sources, Russia and Europe's natural gas relationship, a cornerstone of the Russian economy and security strategy, will weaken. As stated above, the natural gas infrastructure is almost entirely dependent on the revenue generated from export sales. Lack of revenue will cause the infrastructure to decay still further, eventually deteriorating to the point where it is

¹⁴⁷ Energy Information Administration, "Russia." Additionally, the EIA notes that by 2020, the Big Three will only be able to produce 23 percent of Gazprom's needs.

¹⁴⁸ Energy Information Administration, "Optimizing Russian Natural Gas," at: http://www.iea.org/textbase/npsum/opt_russ_gas.pdf (accessed September 6, 2010).

no longer capable of sustaining the domestic natural gas distribution. In order to pacify its customer base, Russia must tap into the Arctic's natural gas deposits before its supply becomes exhausted.

Russia's natural gas industry cannot afford to have its customer base abandon the relationship before these new fields are brought online. Not only are Europeans wary of Russia's monopolistic status, they are also unhappy with Russia's history of unpredictable delivery.¹⁴⁹

Currently, Russia's gas exports to Europe must be piped through intermediary nations such as Ukraine, which can negatively affect both producer and consumer. Using these third parties generates additional costs (making the supplier less competitive) and potential delays in shipment (making the supplier less reliable) as disputes develop between the supplier and intermediary countries, in this case, Ukraine. In 2006, for example, Russia cut supply to Ukraine after the latter refused to pay a Russian mandated five hundred percent price increase per TCM of gas. Since 80 percent of Europe's Russian gas supply comes via Ukraine, Europe found itself in the middle of one of the coldest winters on record with few alternatives as its additional suppliers were already producing at maximum capacity.¹⁵⁰ Recognizing this problem, Russia is proposing a new pipeline, the Nordstream, which would allow Russian gas to travel to Europe by way of the Baltic Sea versus the overland route, thereby eliminating the contention caused by third-party involvement.¹⁵¹ Russia lost billions by shutting off the gas to Ukraine and, by default, losing its European customers. While there is no guarantee that European supplies will not be

¹⁴⁹ Organization for Economic Co-Operation and Development, "Economic Survey - Russian Federation 2004: Natural Gas," *OECD Economics Department*, 2004, at: http://www.oecd.org/document/44/0,3343,en_2649_34323_32473708_1_1_1_1,00.html (accessed December 4, 2010) and Solanko and Sutela, "Too Much or Too Little Russian Gas to Europe?"

¹⁵⁰ Fred Weir, "Russia-Ukraine Gas Standoff," *The Christian Science Monitor*, January 3, 2006, at: <http://www.csmonitor.com/2006/0103/p01s04-woeu.html> (accessed May 15, 2010).

¹⁵¹ Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*, 149.

interrupted in the future, the Nordstream project assures that if the supply is once again cut to Ukraine, the European line will remain open. In short, as long as the gas is flowing, Russia reaps the rewards.

In 2007, Russia's combined natural gas production fell by 1.3 percent.¹⁵² The industry publicly blamed Europe's unusually warm summer for the decline as the region demanded less, yet the truth was far more troubling for Russian leadership. In reality, the decline was attributed to the industry's main source of gas, the enormous fields in a region of Western Siberia known as Nadym Pur Taz, being unable to fulfill obligations due to depleted supplies.¹⁵³ Because of diminishing supplies, 2008 European natural gas contracts were met only by the transshipment of gas from Turkmenistan.¹⁵⁴ Clearly a stopgap measure, this cannot sustain the industry in the long term.

What is needed is a new source and the Arctic offers the only foreseeable solution. By 2020, the Russian gas industry "expects half its natural gas to come from the northwest Russian Arctic: the low-lying Yamal Peninsula, protruding into the frozen Kara Sea, and the offshore Shtokman field...Yamal alone is forecast to provide 75 to 115 billion cubic meters (bcm) of Russian gas as early 2015, rising to 310 to 360 bcm by 2030."¹⁵⁵ These figures resonate closely with the policies in Russia's National Security Policy as well as its National Energy Strategy.

With the state's stability so closely enmeshed with its ability to harvest and distribute natural gas, it is understandable that the Yamal region is garnering so much attention. Gazprom, and, by default, the state, has earmarked Yamal as the best hope for further prosperity. This is due not only to its yield potential,

¹⁵² Emmerson, *The Future History of the Arctic*, 207.

¹⁵³ Ibid.

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

but also due to what corporate leadership perceives as a relatively quick timeline from its current state to that of full production.¹⁵⁶

C. SO CLOSE AND YET SO FAR

The costs of exploiting hydrocarbons in the Arctic are staggering due to the extremely harsh environmental conditions in the region as well as the deposits' isolation relative to the consumers. The sun may not appear above the horizon for weeks at a time during the winter. During the months with abundant sunlight, the angle at which the rays strike the earth's surface is much less than 90 degrees, which greatly reduces the amount of incident solar radiation. Developments in the Arctic waters are subject to not only the same conditions, but must also contend with up to three-meter-thick pack ice and drifting icebergs weighing up to 10,000 tons.¹⁵⁷ Corporations wishing to conduct oil and natural gas exploration above the Arctic Circle encounter variables not experienced in their more southern areas of operation. As such, the cost of doing business can be as much as 1.5 to 2 times greater than operations conducted in climates that are more temperate.¹⁵⁸ Just a few of the obstacles corporations must contend with are,¹⁵⁹

- Weather requiring specially-designed equipment capable of withstanding the frigid temperatures;
- On lands, poor soil conditions requiring additional site preparation to prevent equipment and structures from sinking;
- The characteristically marshy Arctic tundra precluding exploration activities during the warmer months of the year;

¹⁵⁶ According to Gazprom, "Being most explored and ready for development, Yamal is located near the existing gas transportation infrastructure, has significant reserves and favorable production opportunities. It is impossible anywhere in Russia to create such an oil and gas production complex within two decades only. This is the reason why the development of Yamal will play a pivotal role in the national gas industry development in the 21st century." See Gazprom, "Yamal Megaproject," 2008, at: http://www.gazprom.com/f/posts/25/697739/book_my_eng_1.pdf, 10.

¹⁵⁷ Emmerson, *The Future History of the Arctic*, 212.

¹⁵⁸ Philip Budzik, "Arctic Oil and Natural Gas Potential," *U.S. Energy Information Administration*, October 10, 2009, at: <http://www.eia.doe.gov/oiaf/analysispaper/arctic/index.html> (accessed September 19, 2010), 9.

¹⁵⁹ *Ibid.*

- The icepack at sea not only becoming a threat to offshore facilities, but also hindering the shipment of personnel, materials, equipment, and product for long periods;
- Long supply lines from the world's manufacturing centers require equipment redundancy and a larger inventory of spare parts to insure reliability;
- Limited transport capability and long supply lines reduce the transport options and increase transportation costs; and
- Higher wages and salaries are required to induce personnel to work in the harsh Arctic environment.

Further, oil and natural gas developments in the Yamal Peninsula are recognized as some of the most difficult to construct as the area's weather phenomena are even more extreme than that of other Arctic regions. According to a Cambridge Energy Research Associates report,¹⁶⁰

Intermittent permafrost becomes continuous, winds rise to a steady 40 m per second, wind-driven water up to 10 m deep covers the low-lying land several months of the year, and solid ground gives way to friable sand that offers little support to drill pads or to pipelines and other infrastructure. In winter, instead of soil there is a frozen mixture of one part sand to four parts of ice, shot through with salt. At greater depths one encounters cryopegs—liquid saltwater lenses that slide under pressure, further weakening the load-bearing capacity of the soil....The most difficult part is getting gas and liquids to market as well as getting equipment and materiel in.

Overcoming such obstacles is not impossible. The problem of pack ice, which runs the risk of not only pulling drill rigs off location but also crushing the rigs all together, may be overcome with drill ships, capable of retreating from the area before the ice reaches their location. Another proposal is the construction of artificial islands in shallow waters thereby allowing the use of more conventional onshore equipment.¹⁶¹ While such proposals are technically feasible, their realization is near impossible for Russia to attempt unilaterally.

¹⁶⁰ Thane Gustafson and Matthew Sagers, "Conquering Yamal: Gazprom's Strategy for Developing the Next Generation of Russian Gas Supply," 2007, 14.

¹⁶¹ Emerson, *The Future History of the Arctic*, 180.

State-imposed restrictions on Arctic development designed to strengthen the state also detract from innovation. In July 2008, Igor Sechin, deputy prime minister and former chairman of the state-owned oil corporation Rosneft, limited the pool of allowable corporations that may explore the potentially lucrative Arctic hydrocarbon deposits. According to Federal Law 129, the only companies allowed to harvest the strategic resources located on the Russian continental shelf must be "Russian legal entities established in the Russian Federation, with over 50 percent of voting shares controlled by the Russian federal government, and have at least five years' experience in developing strategic resources on the Russian continental shelf."¹⁶² In effect, the only corporations allowed to develop the Arctic areas for oil and gas exploitation are Gazprom and Rosneft, hampering the possibility for industry competition and the resultant product innovation. This will not help Russia's need for a short-term solution to the problem of near-depleted natural gas fields and hard-to-reach oil deposits.

A CEO of a leading Western oil corporation argues that, currently, the best Russian oil and gas companies are still ten years behind their Western counterparts.¹⁶³ Federal Law 129, signed by President Medvedev in July 2008, presumably designed to strengthen Russian nationalism, will only slow down the inevitable. The Russian government will likely come to realize that the resources it needs will remain firmly in the ground unless foreign technology, foreign money and foreign management are allowed in. In the CEO's view, it is inevitable that Western companies will be involved Russia's Arctic development.¹⁶⁴ If Russia agrees and once the bonds are in place, the potential for conflict in the region may be greatly reduced.

¹⁶² Toby T. Gati, "Russia's New Law on Foreign Investment in Strategic Sectors and the Role of State Corporations in the Russian Economy," *Akin, Gump, Strauss, Hauer and Field, LLP*, October 1, 2008, at: http://www.akingump.com/files/upload/Foreign_Investment%20in%20Russian%20Strategic%20Sectors%20-%20by%20Toby%20T.%20Gati.pdf (accessed October 1, 2010), 16.

¹⁶³ Emmerson, *The Future History of the Arctic*, 211.

¹⁶⁴ *Ibid.*

IV. JOINING RUSSIA AND THE WEST

Allowing Western corporations to become active participants in the future of Russia's hydrocarbon industry is by no means a one-sided arrangement. While these corporations gain economically as well as strategically, Russia gains not only access to difficult deposits but numerous other benefits as well. Direct investment in Russia would bring new technology, management techniques, human capital and training for Russian workers.¹⁶⁵ Considering the history of Russia's poor management of its energy sector, a fresh perspective on contemporary extraction and distribution methods may ensure the industry remains viable well into the future.

This chapter begins with an overview of Western hydrocarbon technology. As discussed in Chapter III, Russia's hydrocarbon infrastructure is failing, its techniques used to extract oil and gas reservoirs have almost reached their productive limit and the state's reliance on hydrocarbons necessitates it reinvest in the industry soon. Western corporations possess the required technology, which Russia could use to maintain its industry. Next, the chapter discusses some Russian barriers that may deter potential investors from considering involvement with Russian oil or gas corporations. The chapter concludes with an overview of the unusual nature of the hydrocarbon industry. Despite barriers and historical losses, corporations continue to risk investment in this sector.

A. WHAT THE WEST HAS TO OFFER

Russia is clearly not inept at hydrocarbon extraction. One does not become the world's leading natural gas and second oil exporter through incompetence. However, Russia does lack the ability to make the most of their existing reserves. In terms of oil production, the simple engineering techniques mentioned in Chapter III that increased the flow of oil around the turn of the

¹⁶⁵ Polachek, Seigle and Xiang, "Globalization and International Conflict: Can FDI Increase Peace?" 281.

twentieth century but were not nearly enough to fully deplete what still remained below the surface. Though their major producing fields may appear exhausted, the employment of modern techniques, known as enhanced oil recovery (EOR) or tertiary techniques, will further squeeze more crude from existing sites.

The oil initially extracted from a newly tapped well is harvested via primary recovery techniques. Primary recovery involves the natural pressure of the oil field, augmented with additional equipment such as pumps, bringing the oil to the surface. Due to equipment and natural limitations, primary recovery will yield only about 10 percent of the reservoir's potential.¹⁶⁶ Primary recovery was the relied-upon method of the Soviet-run industry; in the West this technology was eclipsed by secondary recovery methods in the 1950s. The resurgence of Russia's industry in 1999 was due in large part to the adoption of secondary recovery techniques that further depleted existing reservoirs.

Secondary recovery techniques involve injecting water or gas into the reservoir to displace the oil and push it to a well where it is brought to the surface. This technique results in the recovery of between 20 and 40 percent of the oil in place.¹⁶⁷ The United States has successfully employed secondary recovery techniques since the 1950s and it continues to refine these methods while striving to achieve higher yields.¹⁶⁸ In Russia, secondary recovery is underway and the United States has become involved through corporate acquisitions.

Geolink, a U.K. company, has been assisting Russian oil companies for almost a decade in the recovery of oil via secondary extraction. In 2004, oil systems group Sondex, another U.K. company, acquired Geolink and charged it with leading its Drilling Division.¹⁶⁹ Three years later, U.S.-based General

¹⁶⁶ United States Department of Energy, "Enhanced Oil Recovery/CO2 Injection," at: <http://fossil.energy.gov/programs/oilgas/eor/index.html> (accessed November 1, 2010).

¹⁶⁷ Ibid.

¹⁶⁸ Ibid.

¹⁶⁹ Sondex, "Our History," at: http://www.sondex.co.uk/about_us/our_history/ (accessed October 15, 2010).

Electric acquired Sondex thereby giving the United States a stake in Russia's oil industry.¹⁷⁰ Secondary recovery is only capable of extracting so much from the ground before even this technology is of no use. The next step, with which Russia has little to no experience, is EOR techniques.

EOR, or tertiary recovery techniques, involve a range of extraction possibilities and may recover over 60 percent of the available oil in a reservoir. Three categories of EOR have been employed with varying degrees of success in the United States.¹⁷¹

- Thermal recovery, which involves the introduction of heat such as the injection of steam to lower the viscosity, or thin, the heavy viscous oil, and improve its ability to flow through the reservoir. Thermal techniques account for over 50 percent of U.S. EOR production, primarily in California.
- Gas injection, which uses gases such as natural gas, nitrogen, or carbon dioxide that expand in a reservoir to push additional oil to a production wellbore, or other gases that dissolve in the oil to lower its viscosity and improves its flow rate. Gas injection accounts for nearly 50 percent of EOR production in the United States.
- Chemical injection, which can involve the use of long-chained molecules called polymers to increase the effectiveness of waterfloods, or the use of detergent-like surfactants to help lower the surface tension that often prevents oil droplets from moving through a reservoir. Chemical techniques account for less than one percent of U.S. EOR production.

According to industry analysts, "EOR has not been exploited in Russia in the way it has in many...other assets around the world so there is a huge opportunity here [for investment]."¹⁷² As stated above, Russia's existing fields are near exhaustion and bringing new fields on line in what are considered hard-to-reach locations will take time. In the interim, adopting EOR methods will

¹⁷⁰Nic Fildes, "GE Snaps Up Oil Services Group Sondex," *The Independent*, September 4, 2007, at: <http://www.independent.co.uk/news/business/news/ge-snaps-up-oil-services-group-sondex-401346.html> (accessed November 2, 2010).

¹⁷¹ U.S. Department of Energy, "Enhanced Oil Recovery/CO2 Injection."

¹⁷² Frederick Brooker, "Relating to Russia," *Frontiers*, no. 16 (August 2006), 35.

provide a stopgap opportunity for the oil to keep flowing with little or no impact on national revenue. Additionally, once the new fields begin production, knowledge of EOR techniques will ensure their longevity well beyond what was once considered the reservoir's point of terminal decline.

Russia's oil companies have successfully collaborated with international companies in order to extract as much as possible from their wells.¹⁷³ As secondary techniques run their course, it is only logical to move on to tertiary methods. This next step may be one of several inroads which the West may establish FDI opportunities within Russia, thereby forging interdependence to thwart conflict escalation in the Arctic. Extracting as much as possible from oil deposits is not the only area where Western technology may help overcome a Russian lack of expertise. Another is offshore drilling, particularly in deep waters.

Though Russia reportedly holds the world record for the deepest hole ever drilled, it has not been able to achieve the depths the West has in hydrocarbon production.¹⁷⁴ Currently, Western companies hold a number of records for drilling the farthest. On shore, the deepest natural gas well is located in Oklahoma and is run by Oklahoma-based GHK. This well, known as GHK/Lone Star Bertha Rogers #1-27, measured 31,441 feet when molten sulfur inhibited further depth.¹⁷⁵ ExxonMobil's Z-11 well, located on Sakhalin Island in eastern Russia, became "the longest measured depth extended-reach drilling well in the world" after it achieved a total measured depth of 37,016 feet.¹⁷⁶ Offshore, a Chevron well in the Gulf of Mexico measuring over 26,700 feet holds the world

¹⁷³ Emmerson, *The Future History of the Arctic*, 199. According to ConocoPhillips executive, Jim Mulva, the company has already saved Lukoil \$500 million by the application of Western technology to Russian fields.

¹⁷⁴ Alexis Madrigal, "How the Soviets Drilled the Deepest Hole in the World," *Wired*, August 25, 2008, at: http://www.wired.com/science/discoveries/multimedia/2008/08/gallery_kola_borehole (accessed December 3, 2010).

¹⁷⁵ V. C. Kelessidis, "Challenges for Very Deep Oil and Gas Drilling - Will There Ever be a Depth," (paper presented at the 3rd AMIREG International Conference, Athens, Greece, September 8, 2009).

¹⁷⁶ ExxonMobil, "Around the World with ExxonMobil," *The Lamp*, no. 2 (2007), 3.

record.¹⁷⁷ Recently, Shell bested the “water depth record for an offshore oil drilling and production platform by over 50 percent” when its Perdido platform began extracting oil in over 8,000 feet of water off the coast of Texas.¹⁷⁸

Equipment developed in the West for Arctic hydrocarbon extraction represents the cutting edge of the industry. For example, Transocean, a U.S.-based company and the world’s largest offshore drilling company, announced that it is close to closing a deal with ExxonMobil for the construction of a new Arctic Class drilling rig as well as ice-class drill ships.¹⁷⁹ Aker Drilling, a Norwegian offshore drilling contractor, recently constructed two semi-submersible drilling rigs capable of ultra-deep water drilling and harsh environment operation.¹⁸⁰ As a final example, Shell is planning to build a fleet of floating liquid natural gas plants. These vessels would enable the tapping of gas fields far out to sea where previously it would have been too costly to construct the pipeline infrastructure to bring the gas onshore for processing.¹⁸¹ This is especially useful for Arctic operations where the unpredictable nature of the sea floor has blocked development of long-distance pipelines. Russian industry executives have expressed interest in developments such as these, paving the way for possible avenues of investment.¹⁸²

British Petroleum (BP) is actively soliciting large-scale involvement in Russia’s Arctic and is promising to share technology in an effort to secure it. In January 2010 at the Academy of National Economy under the Government of

¹⁷⁷ Chevron, “Chevron Announces First Oil From Tahiti Field in Gulf of Mexico,” at: <http://www.chevron.com/news/press/release/?id=2009-05-06> (accessed October 14, 2010).

¹⁷⁸ Shell, “Shell Starts Production at Perdido,” at: http://www.shell.com/home/content/media/news_and_media_releases/2010/perdido_31032010.html (accessed November 4, 2010).

¹⁷⁹ Reuters, “Exxon Looks to Sign Near-\$1 bln Arctic Rig,” January 7, 2010, at: <http://www.reuters.com/article/idUSTRE6065Y420100107> (accessed October 25, 2010).

¹⁸⁰ “New Drilling Rigs for Arctic Climate,” *Barents Observer*, June 2009.

¹⁸¹ Danny Fortson, “Shell Takes to High Seas to Escape Oil Gloom,” *The Times*, August 2, 2009, at: http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article6736227.ece (accessed November 2, 2010).

¹⁸² Kefferputz, “On Thin Ice? (Mis)interpreting Russian Policy in the High North.”

Russia, then BP CEO Tony Hayward elaborated on BP's experience in offshore Arctic regions such as the North Slope of Alaska, the Canadian Arctic and Northern Norway. "Building on this expertise," he said, "we would certainly welcome the opportunity to deploy our technology and skills to explore and produce Arctic resources in Russia as well."¹⁸³ The technology he is referring to is BP's Field of the Future program, which is present in over 80 percent of its top-producing wells—700 in all. The program "brings together existing and new technologies and integrat[es] them with real-time data management and revised business processes, to enable oil and gas field operations to be continuously monitored and operated from a distance, linked in real time to remote decision makers."¹⁸⁴ After initiating the program in 2005, BP has added almost 50,000 barrels of oil per day to its yield. The company's outlook is to add 100,000 barrels per day by 2017.¹⁸⁵

B. BARRIERS TO ACHIEVING COOPERATION

The history of Russia's gas industry is replete with examples of what not to do to successfully attract FDI. Though it is difficult not to blame contemporary Russia for its present economic policies, the foundation of the Russian economic system was actually laid decades ago when hydrocarbons began to drive the economy and a condition known as the "resource curse" evolved within the state to be a hindrance to diversification and further prosperity.

The resource curse, or "paradox of plenty," are terms which refer to the apparent contradiction that states with a wealth of natural resources actually experience less economic growth than states without these or similar

¹⁸³ Reuters, "BP Offers Technology, Expertise to Develop Russia's Arctic Deposits," January 1, 2010, at: <http://en.rian.ru/business/20100121/157639867.html> (accessed October 30, 2010).

¹⁸⁴ British Petroleum, "BP's Field of the Future in Norway," at: <http://www.bp.com/sectiongenericarticle.do?categoryId=9003452&contentId=7007804#7032458> (accessed November 4, 2010).

¹⁸⁵ Digital Energy Journal, "BP's Field of the Future," *Digital Energy Journal*, April 27, 2010, at: <http://www.digitalenergyjournal.com/displaynews.php?NewsID=1245> (accessed November 5, 2010).

resources.¹⁸⁶ The curse stems from a reliance on exports of natural resources while at the same time neglecting other national industries. Behind the decision not to diversify is the generation of large sums of revenue relatively easily and quickly while investment in additional industries is neglected.¹⁸⁷ The job losses incurred as a result of neglecting other industries forces many skilled workers into the more stable hydrocarbon sector.¹⁸⁸ This increased reliance on resource revenues makes industries, such as manufacturing, difficult to restore if the natural resource becomes depleted or if market price degrades. Additionally, government revenue becomes so intertwined with the natural resource industry that the two become almost inseparable. This is prevalent even in cases where the government does not own a significant portion of the sector as in the Russian government's majority ownership in Gazprom.¹⁸⁹

1. Taxes

Democratic governments in non-resource dependent economies generate revenue via citizen taxation. In return, citizens insist government be efficient and responsive to their needs. An administration which fails in this bargain will soon be replaced by one promising to be more responsive. Thus, a relationship between leadership and citizenry is established. In democracies with resource-dominant economies there is less of a requirement to depend on the citizens for revenue because the government has what amounts to a guaranteed source of income from the natural resource market.¹⁹⁰ In Russia, this is the case with the gas and oil industries. Gazprom's tax payments alone account for over 25

¹⁸⁶ For example, see James A. Robinson, Ragnar Torvik, and Thierry Verdier, "Political Foundations of the Resource Curse," *Journal of Development Economics* 79, no. 2 (April 2006); Michael L. Ross, "The Political Economy of the Resource Curse," *World Politics* 51, no. 2 (1999); Jeffrey D. Sachs and Andrew M Warner, "The Curse of Natural Resources," *European Economic Review* 45, no. 4-6 (May 2001); Giles Atkinson, and Kirk Hamilton, "Savings, Growth and the Resource Curse Hypothesis," *World Development* 31, no. 11 (November 2003).

¹⁸⁷ Robinson, Torvik and Verdier, "Political Foundations of the Resource Curse," 450.

¹⁸⁸ Ibid., 459.

¹⁸⁹ Giles and Hamilton, "Savings, Growth and the Resource Curse Hypothesis," 1804.

¹⁹⁰ Jay J. Park, "The Resource Curse: Causes, Effects and Solutions," at: http://www.macleoddixon.com/documents/Paradox_of_Plenty.pdf (accessed May 14, 2010).

percent of the nation's federal tax revenues.¹⁹¹ Taxation in the oil industry has not only led to the neglect of infrastructure to the point where production suffers, but it has harmed the potential for FDI as well:

Desperate to make as much money as it can [from hydrocarbons] ... the government levies a punitively high export duty, taking more than half the proceeds of any barrel that fetches a market price of more than \$25. When all the other changes are taken into account—a variety of corporate, payroll and production taxes—then industry insiders complain that the state is taking as much as 92 percent of profits made by international ventures such as TNK-BP. So the output from TNK-BP's fields in Russia...accounts for one-fifth of BP's overall global production, but only one-tenth of its profits, and its officials have long argued that the oil industry is confronted by rising costs that will make many investments in Russia quite unprofitable unless the tax regime is drastically changed.¹⁹²

One facet of the tax regime causing one of the largest barriers to investment is found in Russia's classification of its hydrocarbon assets. "Offshore oil and gas are clearly defined as strategic natural resource assets and, consequently, fall under the evolving legislation and policies on strategic resources that explicitly limit such non-Russian involvement."¹⁹³ Accordingly, foreign private investors are required to obtain government approval before acquiring 51 percent or more of a strategic company. Additionally, offshore hydrocarbon fields are referred to as items of "federal significance" and thus any foreign entity wishing to acquire more than a 10 percent share must also receive government permission.¹⁹⁴ Even foreign companies that have managed to gain approval have experienced setbacks in realizing economic gain as the Russian government all but forced corporations into unfavorable contract terms. A recent example of the government influencing corporate investors' profits occurred

¹⁹¹ Gelb, "Russian Natural Gas: Regional Dependence," 3.

¹⁹² Howard, *Arctic Gold Rush: The New Race for Tomorrow's Natural Resources*, 145.

¹⁹³ Moe and Rowe, "Northern Offshore Oil and Gas Resources: Policy Challenges and Approaches," 107.

¹⁹⁴ *Ibid.*, 109.

when investors sought inclusion in a very large natural gas reserve in southeastern Russia known as Sakhalin Island.

2. Shell's Experience With Sakhalin-2

The Sakhalin-2 project, drawing upon two generous fields, was to become the world's largest liquid natural gas plant. On 4 December 1994, Russian President Boris Yeltsin signed a law outlining a production-sharing agreement between Russia and Marathon for the Sakhalin-2 project with Marathon conducting most of research and development while Russia reaped the rewards. By February 2000, the Sakhalin Energy Investment Company had grown to include Marathon, Mitsui, Mitsubishi and Shell, with Shell having a 62.5 percent controlling stake in the project.¹⁹⁵ In 2003, Russia's Natural Resources Ministry granted permission to begin construction of the liquid natural gas plant while at the same time separate ecological organizations began accusing Sakhalin Energy of harming the population of gray whales due to the facility's equipment being too close to breeding grounds.¹⁹⁶ Despite the corporation's \$5 million investment in ensuring the project was well clear of all areas potentially affecting the whales, Sakhalin Energy rerouted its pipelines to further comply with the ecological organization's request. In 2005, when everything appeared to be proceeding smoothly, Shell signed a deal with Gazprom granting the latter a 25 percent stake in the consortium in exchange for a 50 percent stake in one of Gazprom's western Siberian fields.¹⁹⁷ However, in August 2006, the project began to sour for Shell and the other foreign investors.

The Russian Natural Resources Ministry declared the Sakhalin-2 project an environmental hazard as the ministry's experts determined the project had become a high risk for mudslides which would reportedly lead to water pollution,

¹⁹⁵ Hurst, "Investment Risky in Russia as Politics Affects Profits," 20.

¹⁹⁶ Michael Bradshaw, "Battle for Sakhalin," *theworldtoday.org*, November 2006, at: http://www.geog.le.ac.uk/staff/mjb41/articles/Battle_for_Sakhalin.pdf (accessed November 5, 2010), 19.

¹⁹⁷ Michael Bradshaw, "Sakhalin -2 In the Firing Line," *Pacific Russia Oil and Gas Report*, (Winter 2006), 13.

equipment damage and fatalities.¹⁹⁸ Though Sakhalin Energy insisted it had “already taken into consideration construction solutions to prevent such damage from occurring,” it was nonetheless ordered to cease work on the onshore pipelines and rework the design.¹⁹⁹ Weeks later, the Ministry revoked the 2003 approval for the project after it was over 80 percent complete.²⁰⁰ Further, although denying any association with the government, a Russian environmental watchdog group known as Rosprirodnadzor threatened to bring “criminal cases for every tree destroyed or damaged river. If criminal cases are opened for everything, the company will read the criminal code, come to its senses and stop the barbarian activity.”²⁰¹ The disassociation with the government ended when the Natural Resources Minister Yuri Trutnev asked Rosprirodnadzor to provide details of Sakhalin Energy’s environmental infractions. By 21 December 2006, Shell yielded to Russian pressure. Shell reduced its controlling stake in the project to just over 27 percent with Gazprom assuming a 51 percent stake. With Gazprom in charge, the environmental concerns all but vanished within days of Shell’s acquiescence, even though few additional measures were taken at the construction site to ease Rosprirodnadzor’s concerns.²⁰² According to President Putin, all ecological issues were considered resolved. “I’m pleased that our environmental services and the investors have agreed on the way of resolving ecological problems,” he briefed the nation via a televised speech.²⁰³

Clearly, this type of behavior toward foreign investment makes potential investors skittish of getting involved in any Russian-sponsored projects and

¹⁹⁸ Andrew E. Kramer, “Shell cedes control of Sakhalin-2 to Gazprom - Business - International Herald Tribune,” *The New York Times*, December 21, 2006, at: <http://www.nytimes.com/2006/12/21/business/worldbusiness/21iht-shell.3981718.html> (accessed October 25, 2010).

¹⁹⁹ Hurst, “Investment Risky in Russia as Politics Affects Profits,” 21.

²⁰⁰ Bradshaw, “Sakhalin -2 In the Firing Line,” 12.

²⁰¹ Hurst, “Investment Risky in Russia as Politics Affects Profits,” 22. The individual spearheading the effort, Oleg Mitvol, declared his intentions were entirely personal, “I’m doing it for my daughter and for the future of Russia.”

²⁰² Ibid.

²⁰³ Ibid., 25.

pushing investors away in no way helps Russia solve its problem of gaining access to Arctic reserves or maintaining its current reserves. Technologically advanced development pursued under an autarkic policy will not succeed. Russia is now finding the truth in this in its hydrocarbon industry as it did in military and technological development during the Cold War. As Russian economist Grigorii Khanin argued, "International integration is the chief strength of the Western Economy."²⁰⁴

3. BP's Experience With Kovykta

Discovered in 1987 and located in East Siberia's Irkutsk Oblast, the Kovykta field is estimated to contain over 2 trillion cubic meters of natural gas and 83 million tons of gas condensate.²⁰⁵ RUSIA Petroleum holds the license for developing Kovykta and TNK-BP holds a 63 percent stake in RUSIA.²⁰⁶ TNK-BP itself is a joint venture composed of Russian TNK (formerly Tyumen Neftegaz Company) and British Petroleum; with each member having an equal 50 percent stake in the partnership. TNK-BP is unique as it is the only large energy company in Russia that it is not majority-controlled by Russians and does not have any state shareholders.²⁰⁷ Under an agreement reached in 1997 between TNK-BP and the Russian government, Kovykta was required to produce 9 bcm of gas per year by 2006. Since then, TNK-BP has invested over \$1 billion in the

²⁰⁴ Brooks, *Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict*, 113.

²⁰⁵ Reuters, "Key Facts About Russia's Kovykta Gas Field," May 28, 2007, at: <http://uk.reuters.com/article/idUKSPI84993920070528> (accessed November 2, 2010).

²⁰⁶ Vladimir Socor, "TNK-BP Faces Kovykta Endgame," *Asia Times*, March 24, 2010, at: http://www.atimes.com/atimes/Central_Asia/LC24Ag01.html (accessed November 2, 2010).

²⁰⁷ Reuters, "Key Facts About Russia's Kovykta Gas Field."

project.²⁰⁸ The investors' long-term goal was to become a key exporter of gas to China while also meeting a Russian requirement to supply gas to Irkutsk.²⁰⁹

Trouble began in 2007 when Russia's Ministry of Natural Resources accused TNK-BP of not meeting their license agreement of 9 bcm as they were only producing approximately 34 million cubic meters. President Putin, at the G8 summit in Germany, outwardly attacked TNK-BP for their poor yield:

I would like to stress that the field has reserves of three trillion cubic meters [sic]. To understand its importance for our country it is equal to almost all the reserves of Canada. But if the members of the consortium are doing nothing to meet license obligations, how much longer do we have to tolerate this?²¹⁰

Producing the 9 bcm, however, would not have been justifiable since TNK-BP was unable to move the gas to a large population of buyers. First, the demand in Irkutsk is very low due to the Russian government not creating the infrastructure to carry the gas to the local population. There is also speculation that even if the infrastructure had been developed, demand would still have been very low and Gazprom would have siphoned off the excess for export as its own product.²¹¹ Second, in 2007, Gazprom became the monopoly owner of all export gas and as such they refused TNK-BP access to the pipeline, preventing any possibility of export to China. In short, the Russian state inhibited any investor profit and the \$700 million invested in the project was becoming a loss.

Under pressure from the Russian Mineral Resources Oversight Service, which threatened to revoke RUSIA's license to develop Kovykta, in 2007 TNK-BP

²⁰⁸ Reuters, "Russian Court Declares TNK-BP's Kovykta Insolvent," October 19, 2010, at: <http://www.reuters.com/article/idUSLDE69I0DW20101019> (accessed November 12, 2010).

²⁰⁹ Se Hyun Ahn and Michael T. Jones, "Northeast Asia's Kovykta Conundrum: A Decade of Promise and Peril," *Asia Policy*, 5 (January 2008), 113-115. Despite China's relative low reliance on natural gas, Beijing is "beginning to realize the limitations of coal for providing a stable supply of electricity..." China's coal industry is in need of \$100 billion in investments to meet 2025-projected demand and in lieu of this investment, leadership is increasingly looking toward gas.

²¹⁰ Steve Hawkes, "Putin Attacks BP over \$20 Billion Kovykta Project," *The Times*, June 4, 2007, at: http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article1880167.ece (accessed November 3, 2010)

²¹¹ Socor, "TNK-BP Faces Kovykta Endgame."

offered to sell its share of the project to Gazprom for \$700 million to \$900 million but the agreement never closed. Since then the Russian government constantly harassed TNK-BP for its low production and violation of the licensing agreement. In addition, Yuri Trutnev, the Russian Natural Resources Minister, declared that if the state were to inherit the Kovykta project because of TNK-BP not fulfilling their obligations, TNK-BP would not be compensated for the capital invested.²¹²

In June 2010, RUSIA filed for bankruptcy after TNK-BP recalled the credits it had over time granted to the license holder all the while knowing RUSIA would not be able to repay the loans. As RUSIA's creditor, the bankruptcy was designed to allow TNK-BP to auction off RUSIA's property in the hopes TNK-BP could earn back some of its original investments in the Kovykta project. Under Russian legislation on mineral resources, if a license-holding company becomes bankrupt, the license subsequently passes to the new buyer. However, since Kovykta had been categorized as a strategic asset, the license could not be transferred to a foreign company.²¹³ In sum, after TNK-BP conducted all of the initial preparation, in the end Russia will be the one that reaps all of the benefits to this investment.

C. THE NATURE OF HYDROCARBONS

The above examples illustrate the difficulties and frustrations involved in attempting to gain a foothold in the Russian hydrocarbon industry. Such events have made major investors skittish and outright angry. Rex Tillerson, CEO of ExxonMobil, told an audience gathered at the St. Petersburg International Economic Forum, "There is no confidence in the rule of law in Russia today."²¹⁴

²¹² Socor, "TNK-BP Faces Kovykta Endgame."

²¹³ Vladimir Socor, "BP's Russian Joint Venture Files for Bankruptcy at Kovykta," *The Jamestown Foundation*, June 10, 2010, at: http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=36472 (accessed November 4, 2010). The other shareholders of RUSIA Petroleum are Regional Electricity Generating Company (25 percent) and the Irkutsk Administrative Division (11 percent).

²¹⁴ Emerson, *The Future History of the Arctic*, 201.

President Medvedev has also acknowledged the troubling investment climate in Russia and its impact on FDI. In his speech to The Brookings Institution in April 2010, Medvedev said:

There are things we [Russia] can do in order to improve the climate and its elements, some economic regimes that could be used, including the situation with the legal system. We can improve the functioning of our accords, we could combat corruption. We see these problems...²¹⁵

Yet investors continue to court the Russian government for access to the state's vast deposits. The reason, according to Emmerson, is that foreign oil companies, "driven by the need to maintain their reserves...have little choice."²¹⁶

Though Russia's actions toward potential investors has been callous, Brooks argues that the unique nature of "highly valuable natural resources—that is, resources of which the reserves are scarce and geographically concentrated [such as petroleum]" attract investors regardless of the risks.²¹⁷ Perhaps Russia will always have a ready supply of investors that it can mistreat due to the nature of the resources the state was endowed with. However, unlike states such as Nigeria, which only grant access to their resources in exchange for money, Russia has a stake in harvesting them for its own use.²¹⁸ As Russia's current stock of hydrocarbons depletes, it may be rapidly losing the ability to negotiate contracts unfavorable to outside corporations. For this reason, it may be willing to reduce the barriers it currently presents toward potential investment and if it does, the situation in the Arctic may evolve into a less tense atmosphere.

²¹⁵ Dmitry Medvedev, "Russia-U.S. Relations and Russia's Vision for International Affairs," (an address delivered to the Brookings Institution on April 13, 2010), 18.

²¹⁶ Emmerson, *The Future History of the Arctic*, 203.

²¹⁷ Brooks, *Producing Security: Multinational Corporations, Globalization, and the Changing Calculus of Conflict*, 255-256.

²¹⁸ Michael Watts, ed., *Curse of the Black Gold, 50 Years of Oil in the Niger Delta* (Brooklyn: powerHouse Books, 2008).

V. CONCLUSION

There is a clear and rational foundation for creating a capitalist peace in the Arctic between Russia and the West. The hydrocarbon industries in both regions are in a state of decline due to their existing wells being unable to maintain historic levels of production. On one side, Russia is endowed with newly discovered, vast Arctic reserves but lacks the technology to successfully cultivate them. On the other, the West lacks the reserves but does possess the technology required to reach fields located in one of the harshest environments in the world. Considering that corporate entities in both regions are interested in developing Russia's reserves, the possibility exists that the two sides may joined into a mutually beneficial relationship involving high levels of FDI.

The melting of the Arctic ice and the resultant accessibility of resources and waterways has brought a focus on the region never before experienced. Not only are states petitioning the United Nations for their stake in these resources, they are also taking measures to ensure that no other actor can take by force what they perceive as their own. Russia's recent actions have influenced the Arctic policies of the other Arctic states. These policies, or national security directives, appear to be entrenched in the realist theory of international relations. The realist approach of meeting perceived aggression with an increase in military power designed to offset this aggression mirrors certain aspects of the proposals outlined by Canada, Norway and the United States. As this thesis has proposed, however, proposed an alternate means of easing tensions in the region is to establish a capitalist peace.

The capitalist peace theory holds that a significant level of FDI between two countries minimizes the potential for military conflict thereby leading to more peaceful relations. The most beneficial scenario for the United States would be if Russia sought U.S. experience, as FDI between dyads has the most potential to diffuse security dilemmas. The United States has proven itself capable of providing the expertise that Russia lacks. The hydrocarbon industry in the United

States has a long history of extracting Arctic oil and natural gas and remains at the forefront of emerging technologies in this area. In addition, U.S. corporations, such as ExxonMobil, have already successfully operated in the Russian Arctic and have set international drilling records while doing so. However, foreign direct investment in Russia is not the only capitalist method for easing U.S.-Russia tensions.

Research shows how states petitioning for FDI tend to be more pacific. Additionally, not only are the recipients more pacific, but so are the petitioners for FDI. This is because conflict deters potential investors from becoming involved in prospective business partnerships. According to Polachek et al., the host government, in this case Russia “may be induced to adopt cooperative policies in order to demonstrate a friendly image towards FDI in order to attract further investments from other countries.”²¹⁹ For this reason, even if Russia chose to exclude U.S. involvement it might still be conciliatory towards the United States in order to court others.

A. RUSSIA’S PAST BEHAVIOR AND CURRENT BARRIERS TO FDI

Although BP and Shell experienced negative outcomes with their investments in Russia, the nation’s history is replete with foreign corporations successfully becoming involved in its industry. For example, according to Russian historian, Richard Pipes:

The great surge of Russian industrial production in the 1890s, which attained a pace unmatched either before or since, was not so much the outgrowth of Russia’s own, internal economic development, as the result of the transplantation of western money, technology and above all, management.²²⁰

Additionally, the Soviet Union once welcomed Western corporations, such as Pepsi Cola and Ford Motor Company, to invest and establish manufacturing

²¹⁹ Polachek, Seigle and Xiang, "Globalization and International Conflict: Can FDI Increase Peace?" 282.

²²⁰ Richard Pipes, *Russia under the Old Regime* (New York: Charles Scribner's Sons, 1974), 219.

sites within their borders.²²¹ Contemporary Russia also possesses several inroads for relatively small-scale FDI, such as chemical manufacturing, biotechnology, white goods (i.e., refrigerators, washing machines, etc.) and architectural glass.²²² However, even with Russia's history with FDI, the state has established barriers to such investment in what it considers strategic sectors of the state economy. These barriers have been established in industries precisely where Russia would seem to benefit the most from foreign expertise. A law passed by the State Duma and endorsed by the Federation Council in April 2008 named a long list of strategic industries such as metals, shipbuilding, aircraft manufacturing and, most notably as it relates to this thesis, hydrocarbons as those of strategic importance.²²³

Currently, if any foreign company wishes to pursue investment in one of these strategic sectors it must first petition the Russian government for permission. Assuming permission is granted, if the foreign company is a global organization, it will never be allowed to assume control over the project. The law defines foreign control of a project "engaged in geological surveying of subsoil and/or exploration and production of mineral resources" as having just 10 percent of the total shares.²²⁴ As many of the hydrocarbon corporations interested in investing in Russia are globalized (such as BP, Shell and ExxonMobil), the law ensures that the Russian state will maintain control of all FDI initiatives within the oil and natural gas sector.

²²¹ BeverageWorld, "50 Years of Pepsi in Russia," August 6, 2009, at: http://www.beverageworld.com/index.php?option=com_content&view=article&id=36609:50-years-of-pepsi-in-russia&catid=34 (accessed December 2, 2010); Martin Malia, *The Soviet Tragedy: A History of Socialism in Russia, 1917-1991* (New York: The Free Press, 1994), 377.

²²² Andrew Schneider, "U.S. Companies Still Like Russia," *Kiplinger*, May 8, 2007, at: http://www.kiplinger.com/businessresource/forecast/archive/american_firms_still_like_russia_070508.html (accessed December 2, 2010).

²²³ Ibid.

²²⁴ Vladimir Putin, "Federal Law No. 57-FZ of April 29, 2008 on the Procedure for Making Foreign Investments in Economic Companies which are of Strategic Importance for Ensuring the Country's Defense Capacity and State Security," April 29, 2008, at: http://invest.gov.ru/f/en/guide/rules/strategic/billRF_290408_N%57_english.pdf (accessed November 15, 2010)

Russia's law appears to run counter to the goal then President Putin declared upon taking power in 2001: to attain in 15 years the same living standard as Portugal and Spain.²²⁵ Considered a developing country following its separation from communism, Russia would seem to want to attract FDI to boost its economy.²²⁶ Developing a nation's economy via FDI is normally characterized by liberalizing national policies toward investment and "relaxing rules regarding market entry and foreign ownership [and] improving the standards of treatment accorded to foreign firms."²²⁷ The new law's departure from this philosophy underscores Russia's attitude toward its resources and has been met with mixed reviews from Western analysts.

Some Western economic analysts champion the new legislation, claiming it makes the process of investing more transparent compared to previous procedures, thereby avoiding another Kovykta or Sakhalin fiasco, while others focus on the law's difficulties. President of the American Chamber of Commerce in Russia, Andrew Somers, notes, "We're not too concerned [about the new law]...investors will have a greater degree of certainty about the level of foreign investment the Kremlin will tolerate in these industries."²²⁸ Others, however, see the new requirements as more of a deterrent. The long, cumbersome approval process is one such area. Another deterrent is the level of detail investors are required to divulge before their proposal is considered.²²⁹

The April 2008 law indicates that Russia has done little to improve the investment climate in its hydrocarbon sector in recent years. Considering the

²²⁵ Richard Sakwa, *Putin: Russia's Choice* (London: Routledge, 2007), 255.

²²⁶ Andrei Shleifer and Daniel Treisman, "A Normal Country: Russia after Communism," *The Journal of Economic Perspectives* 19, no. 1 (Winter 2005).

²²⁷ Padma Mallampally and Karl P Sauvart, "Foreign Direct Investment in Developing Countries," *Finance and Development*, March 1999, 36.

²²⁸ Schneider, "U.S. Companies Still Like Russia."

²²⁹ Gati, "Russia's New Law on Foreign Investment in Strategic Sectors and the Role of State Corporations in the Russian Economy," 13. For example, the law requires "price justification for products on the main products list" and a description of "main and potential competitors [and] their possible market shares in relevant markets of goods."

Russian economy's overwhelming dependence on oil and natural gas, it is important for Russia to make a determination on whether it will relax the barriers to FDI within this industry. Were Russia to attempt to revive the industry on its own, this would require more time and money than the state can afford considering the depleted condition of its existing fields. Therefore, it is incumbent upon Russia to solicit FDI in order to maintain its foothold in the oil and natural gas market. Yet the barriers remain. Somewhat surprisingly, Western companies have shown little indication of being deterred by the recent legislation.

B. WHY THE WEST REMAINS INTERESTED

All of the major Western oil companies are experiencing a decline in production due to dwindling reserves.²³⁰ ExxonMobil, for example, experienced a 9.2 percent decline in its African wells, a source representing more than one-fourth of the company's oil production, and a 10 percent decline in its U.S. wells.²³¹ ConocoPhillips also recorded a loss in production when its fields, located chiefly in the United States and Europe, yielded a 4 percent decline.²³²

The decline stems primarily from maturing fields, though governments in oil-rich regions have also renegotiated contracts allocating fewer barrels to Western companies in order to increase profits for national enterprises.²³³ According to an analyst at Barclays Capital, "It has become really, really difficult to grow production. International companies have a portfolio of assets in areas of significant decline and no frontier discoveries to make up for that."²³⁴

²³⁰ Stefan Theil, "Big Oil, No Mojo," *Newsweek*, August 9, 2008, at: <http://www.newsweek.com/2008/08/08/big-oil-no-mojo.html> (accessed December 3, 2010).

²³¹ Joe Carroll, "Exxon Profit Falls Unexpectedly as Oil Output Drops," *Bloomberg*, July 26, 2007, at: <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a.LZhN5Gcdnw> (accessed December 3, 2010).

²³² Agustino Fontevicchia, "Less Production, Higher Prices A Winning Equation For Conoco and Hess," *Forbes*, October 27, 2010, at: <http://www.forbes.com/2010/10/27/earnings-conoco-hess-equities-markets-oil.html> (accessed December 3, 2010).

²³³ Jad Mauawad, "As Oil Giants Lose Influence, Supply Drops," *The New York Times*, August 18, 2008, at: <http://www.nytimes.com/2008/08/19/business/19oil.html> (accessed December 3, 2010).

²³⁴ *Ibid.*

A struggling Western industry represents a paradigm shift in hydrocarbon production because for decades over 50 percent of the world's oil and natural gas market was dominated by just seven companies—ExxonMobil, BP, Shell, Chevron, ConocoPhillips, Total and Eni. These companies now produce only 13 percent of the world's oil and natural gas.²³⁵ Currently, the largest companies are all national corporations such as Gazprom and Rosneft, which *Oil and Gas Journal* rank as 11 and 12 respectively.²³⁶ Accompanying the shift in company ownership, the underlying purpose of the industry has also shifted. State-controlled companies are no longer focused on shareholder profits per se; rather they operate under a mandate to secure additional resources for their home countries. Petrochina, for example, outbid Western companies when Libya sold offshore-drilling licenses in the Mediterranean Sea. In effect, Petrochina was able to forgo oil profits, which would be compensated for with other state industries, in order to gain access to the oil, something that would be impossible for profit-oriented corporations.²³⁷

To compensate for their inability to gain access to foreign reserves, Western companies have attempted to diversify but with limited success. Shell and BP, for example have invested in renewable fuels while others have eyed heavy oil and tar sands.²³⁸ In order to survive, however, the leading Western oil and natural gas corporations, like Russia's nationalized companies, must tap into new reservoirs and the Arctic may represent the best option for this to occur.

C. RUSSIA'S ARCTIC AND THE CAPITALIST PEACE

In 2008, the U.S. Geological Survey estimated that there may be over 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels

²³⁵ Jad Mauawad, "As Oil Giants Lose Influence, Supply Drops."

²³⁶ Oil and Gas Journal, "World's Largest Oil and Gas Companies," at: http://www.petrostrategies.org/Links/worlds_largest_oil_and_gas_companies.htm (accessed December 2, 2010).

²³⁷ Theil, "Big Oil, No Mojo."

²³⁸ Mauawad, "As Oil Giants Lose Influence, Supply Drops."

of natural gas liquids to be found in the Arctic.²³⁹ Of proven reserves, the Arctic possesses 61 large oil and natural gas fields, with 43 of them being located in Russia.²⁴⁰ A 2004 BP estimate told of 69.1 billion barrels of oil, 6 percent of the world's oil, in Russian territory.²⁴¹ That same year, a Dallas-based energy auditor, who names Gazprom as a client, estimated Russia's recoverable reserves to be between 150 billion and 200 billion barrels of oil.²⁴² In short, Russia is well endowed with natural resources.

Yet Russian technology is incapable of extracting the oil and natural gas from its newly uncovered Arctic territory. Conversely, Western corporations are in need of new oil reserves and possess the technology to begin extraction almost immediately. The capitalist peace is based on the establishment of economic relationships, which serve to override the potential for increases in hostilities. The hydrocarbon industry may be where these relationships are forged. Achieving a capitalist peace is by no means a foregone conclusion. Political obstacles, such as the Russian law mentioned above, as well as counterarguments posed by realist critics will inhibit the transition from the region's tense present state to one more pacific.²⁴³

Facilitating the capitalist peace will require Russian leaders to reevaluate the costs and benefits of its barriers to FDI in the hydrocarbon industry. Considering its maturing wells and its dependence on oil and gas revenue as

²³⁹ Kenneth Bird et al, "Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle," *USGS Fact Sheet*.

²⁴⁰ Energy Information Administration, "Arctic Oil and Natural Gas Potential," at: <http://www.eia.doe.gov/oiaf/analysispaper/arctic/index.html> (accessed September 14, 2010).

²⁴¹ Jason Bush, "Oil: What's Russia Really Sitting On?" *Businessweek*, November 22, 2004, at: http://www.businessweek.com/magazine/content/04_47/b3909079_mz054.htm (accessed November 15, 2010).

²⁴² *Ibid.*

²⁴³ Brian Snyder, "Senator McCain Criticizes 'Reset' in US-Russia Relations," *RIA Novosti*, November 12, 2010, at: <http://en.rian.ru/world/20101211/161727750.html> (accessed December 11, 2010). According to U.S. Senator John McCain, in a speech delivered at the Johns Hopkins School of Advanced International Studies, "What we need most now is a greater sense of realism about Russia - about the recent history of our relationship, about the substantial limitations on Russian power, about the divergences in U.S. and Russian interests, and about the lack of shared values between our governments."

well as its use of gas for strategic leverage, Russia should comprehend the folly of fostering a business climate unattractive to investors. Unfortunately, Russia's recent behavior has given little indication that it will soon reevaluate its policies. Its 2008 law as well as the examples set in Kovykta and Sakhalin may be indications that Russia would rather keep its resources in the ground rather than risk losing them in the competitive atmosphere that is capitalism.

For its part, the United States should maintain its "reset" policy designed to create more peaceful American-Russian relations. Though the Obama Administration still adheres to NSPD-66, it has shown a willingness to depart from realist principles and adopt more conciliatory policies.²⁴⁴ Continuing to do so may make Russia more receptive toward U.S. industry becoming involved in its strategic resources.

There are at least two possibilities for how the situation in the Arctic will evolve. One resembles a realist solution with large increases in military capabilities and states posturing for regional dominance. This solution involves enormous expenditures and a future characterized by tension and possibly violence. The other solution appears to be more universally beneficial. With Western oil and natural gas corporations joined with those of Russia, the expectation is that such high levels of FDI would bring a kind of peace to the region. It is important to note that the prospect of a capitalist peace does not equate to a lack of rivalry. The resultant atmosphere will involve fierce competition over markets as both sides vie for greater profits and larger shares of resources. However, an atmosphere characterized by competition is much preferred over the realist vision of an atmosphere characterized by military conflict.

²⁴⁴ Euronews, "U.S.-Russia Relations Reset with New Treaty," March 3, 2010, at: <http://www.euronews.net/2010/03/27/us-russia-relations-reset-with-new-treaty/> (accessed December 10, 2010). For example, in 2010, the United States and Russia agreed to reduce by approximately one third the number of nuclear weapons each deployed.

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